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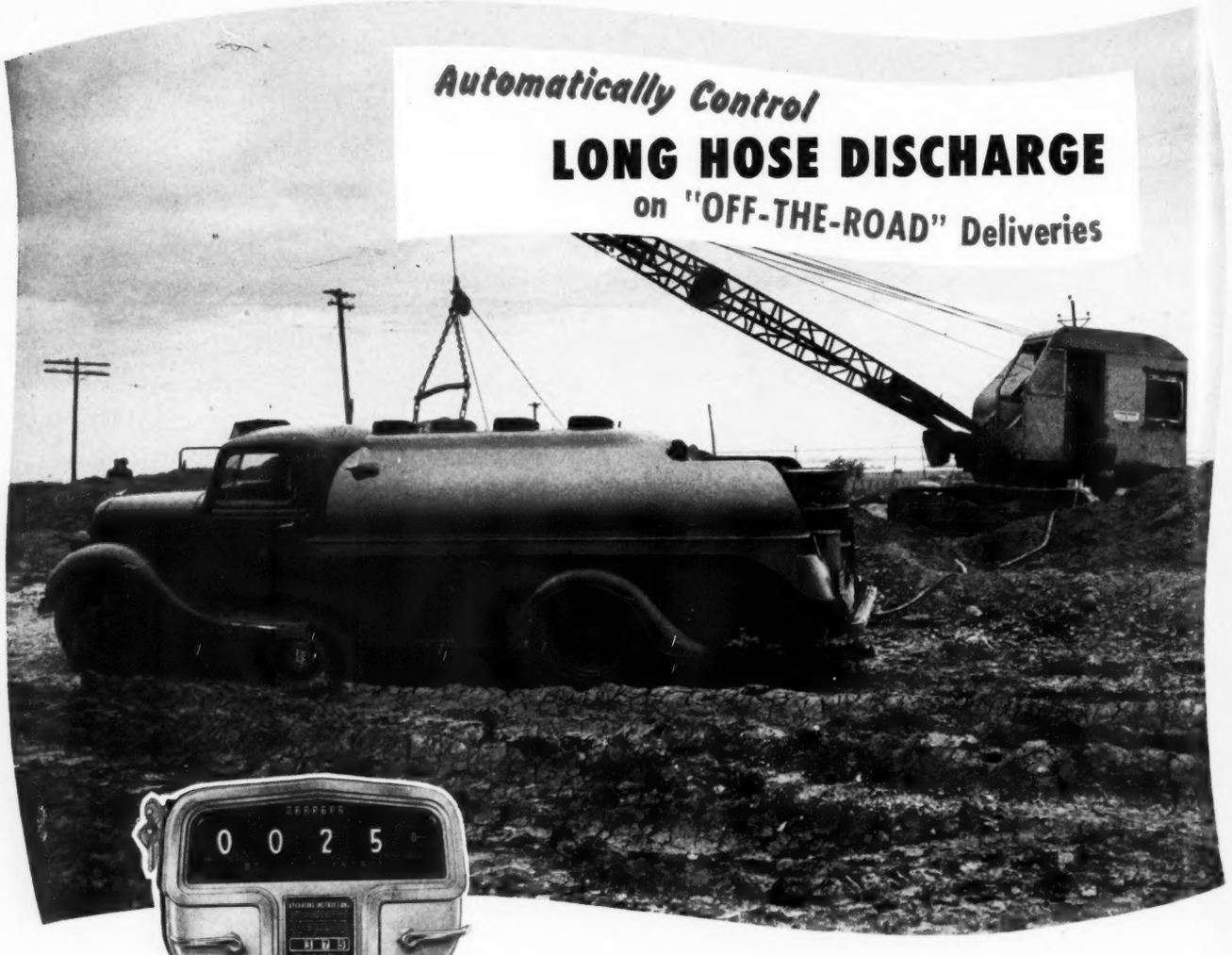
San Francisco Bay Tanker

Automatically Control

LONG HOSE DISCHARGE

on "OFF-THE-ROAD" Deliveries

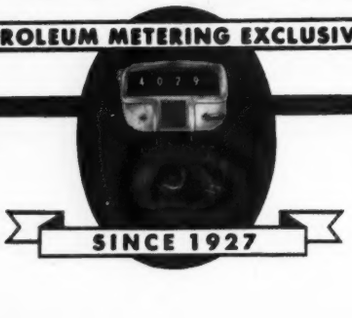


With Brodie Quantrol Meters...

Fueling equipment in the field, as well as making deliveries to customer's tanks or drums in inaccessible or "out-of-the-way" places necessitates long hose transfers. To keep not only an accurate account of each dump, but to prevent overfilling and spillage losses, requires dependable Brodie Meters equipped with fully automatic quantity control. Brodimatic Quantrol Meters permit the operator to pre-set the exact quantity to be delivered. When this gallonage has passed through the meter, the Quantrol automatically shuts-off. Countless savings are thereby effected in steps, time, effort and product. To prevent delivery losses and errors, adopt Brodie Meters and Brodimatic Quantrols on your rural truck tank equipment, today. Full details furnished on request.

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY



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REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

Names in the News

Chris J. Jensen, Sr., will make his headquarters in Oslo, Norway, as foreign representative and engineer for Perfex Corp., Milwaukee, Wis. He will work with European manufacturing accounts and the Perfex exporting agent in education programs. Mr. Jensen has spent more than 32 years in the automatic heat controls field and helped design and build the automatic controls for the first domestic oilburner. He received his education at the Christiana Technical School (now Oslo), and after training with European General Electric, came to the United States in 1912.

Herman Wagen has been appointed district sales manager, Heil Co., Milwaukee, Wis., covering the states of Wisconsin, Michigan, Illinois, Indiana, Ohio and Kentucky, with headquarters at Milwaukee. He has been sales representative for Heil truck bodies and hoists in this area and will continue to handle distributor contacts on these units, while supervising distributor sales of all Heil products in the district. *Tom Boyle* has been transferred from Kansas City to Heil's Milwaukee District Office to concentrate on distributor sales of milk and petroleum storage and transport tanks. His addition makes the Milwaukee District Office the first of the nine Heil offices to be completely staffed for distributor sales and service in accordance with the plan adopted by the company at the end of the war. This calls for a manager and one sales representative for each of the six lines of Heil products.

VOL. 5, NO. 12

fueloil & oil heat

APRIL 1947

C O N T E N T S

SUBJECT	PAGE	AUTHOR
Institute Eyes the Future	51	
Gas at Half the Price	56	ROBERT GRAY
Improving Winter Air Conditioning	60	JOHN W. SCHULZ
Cooperating for the Future	63	J. W. CONNOLLY
Competitive Fuel Prices	64	A. J. MCINTOSH
Why Controlled Draft	127	

NEWS		DEPARTMENTS
Crude Prices Up; Oils Increase	62	
	5	Names in the News
Tentative Fuel Specifications	68	
	8	Editorial Leaks
Predict Fifth of Homes will Use Oil	68	
	10	Oilheating Trends
Crude Reserves Increase 5%	70	
	98	New Products
New England Rations by Counties	72	
	122	Book Shelf
Pacific OHI Meeting	76	
	128	Industry Groups
Two Way Oil Truck Phones	78	
	136	Mfrs. Activities
Dept. of Labor Fueloil Prices	86	
	143	Degree Days
Steel Firm Converts to Oil	88	

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Like a Snow Ball

GROWING PUBLIC ENTHUSIASM

Like a growing snowball, there is an ever growing public enthusiasm for the H. C. Little vaporizing type conversion oil burner, so that today it is the most profitable unit of its kind from the dealer standpoint and the leader in its field.

EXCLUSIVE ELECTRIC IGNITION

There are other vaporizing conversion oil burners, but only H. C. Little has ELECTRIC IGNITION, an exclusive automatic starting feature which completely eliminates a pilot light or low-fire stage. The public long ago realized that electric ignition is to a vaporizing conversion oil burner what a self-starter is to an automobile . . . and public enthusiasm for this revolutionary feature has paid H. C. Little dealers handsomely over the years.

MADE TO ORDER FOR THE "BUYERS' MARKET"

Now that the buyers' market is coming back, why not consider handling a unit which gained fame during that memorable buyers' market, the last depression. Writing for information involves no obligation!

H. C. Little
VAPORIZING
CONVERSION
OIL BURNER

IDEAL FOR SMALL HOMES

The *H. C. Little Vaporizing Conversion Oil Burner* operates at very high efficiency on low-cost furnace oil and provides owners of small homes with all the comfort, convenience and economy of *truly automatic* oil heat, at a price they can easily afford to pay.

H. C. Little
BURNER CO.

Department 4 San Rafael, Calif.

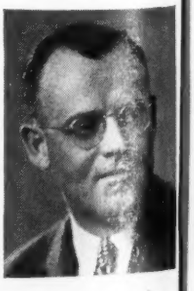
FACTORY REPRESENTATIVES IN PRINCIPAL CITIES

John E. Groves has become industrial relations manager for National Radiator Co., Johnstown, Pa. He assumed his new duties on January 28. A native of Pittsburgh, Mr. Groves formerly was assistant to the executive vice president and industrial relations director for Standard Steel Spring Co., Coraopolis, Pa. He also served as negotiator and administrator of war contracts with the War Department, Pittsburgh Ordnance District.

R. T. Hegeman, who has been in the sales department of the New York office of Refractory & Insulation Corp., New York 19, N. Y., has been appointed sales promotion manager.

H. E. Williams has been promoted to eastern regional sales manager, heating controls division, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. His headquarters will be at the company's New York office. Mr. Williams, who worked for the company's aeronautical division during the war, spent much of his time in New England in charge of technical training of Air Force personnel in the use and maintenance of electronic automatic pilots and turbo supercharger regulators.

Frank C. Hackett, who has been in charge of an eastern sales territory for Bell & Gossett Co., Chicago, Ill., for the past thirteen years, has been appointed sales promotion manager. Part of his time will be devoted to conducting an educational program on modern heating now being developed by the company. Prior to joining B & G, Mr. Hackett was associated with Ames Iron Works, Pierce Butler Radiator Corp. and the Construction Code Authority, Washington, D. C.



"Why I Like to Recommend Shell Fuel Oil..."

"IT'S natural for new users to ask me, their oil burner dealer, what fuel oil I recommend ... what I use myself.

"Years ago, when I was trying out various fuel oils, my answer to this question wasn't very helpful to my customers. Today, it's different. I'm using only Shell Fuel Oil, and I can give my reasons.

"I've watched Shell ever since they established that laboratory in New Jersey... back in the twenties. They set out to get the facts about oil burners... tested dozens of makes... took the lead in setting up standards that definitely were needed.

"They make Shell Fuel Oil today just as carefully as gasoline. I happen to know that Shell uses a special chemical filtration process, and they check fuel oil 30 times between laboratory and oil burner. This means a lot less trouble from clogged jets.

"This all adds up to the reason why I like to recommend Shell Fuel Oil... I feel I'm doing my customer *and* myself a service."

A BOOK FOR YOU!

Shell's new 32-page handbook, "Oil Heat Guide," is just off the press. It contains a digest of valuable data useful for distributors or users of domestic fuel oil.

Everyone in the oil burner and fuel oil business should have a copy of this handbook. It's free—write for yours today!

SHELL OIL COMPANY, INC.
50 W. 50th St., New York 20, N. Y.

SHELL

SHELL FUEL OIL

fueloil & oil heat

Editorial Leaks

Trouble seems slowly to be brewing in paradise. The vision of abundant natural gas on the Eastern Seaboard is becoming clouded by small, dark patches no larger than a man's hand. Not one at present is black enough to resemble a thunderhead, but together they tend to obscure the vision.

Late in February members of Congress from Ohio were asked to be sure that enough gas be supplied from the "Inch" lines to avoid repetition of the serious shortages of the past winter. The request by officials of the Cincinnati Gas & Electric Company was backed by all three of the city's newspapers and public officials. Members of Congress from the state were asking the Federal Power Commission to hold up the certificate of convenience and necessity until assured that adequate gas would be allotted to Cincinnati.

Rep. William E. Hess, Cincinnati, is quoted in the *Cincinnati Enquirer* as having told FPC that his area is in critical need of a new source of gas.

"I wish to protest most vehemently," he wrote, "against any proposal that this gas be diverted to the Eastern Seaboard—an area not accustomed to wide dependence upon gas. The output of these lines would not begin to fill the potential needs of that area if it were converted to gas, and even if used for mixing purposes, it would be only a dribblet which could be of little value to the region as a whole, while it would be of inestimable value to the Cincinnati vicinity."

Texas Eastern Transmission Corporation is seeking to take the lines over on May 1, from Tennessee Gas which is flowing gas at field pressure. Tennessee now is moving 150,000,000 cubic feet a day, and Texas Eastern wants to build three compressor stations to boost the flow to 250,000,000 feet a day by next November.

Recent hearings in Washington revealed that Equitable Gas Company, Pittsburgh, currently is buying about 10,000,000 feet a day from the lines at 23 cents a thousand. After Texas Eastern takes over the lines next month it was revealed that the price will be 32 cents per thousand feet. Such a price to the distributing company does not make possible "cheap natural gas" to the consumer.

Another spot on the horizon may be a greater potential threat to abundant gas in far-away places. On March 14 the Midcontinent Gas Transmission Company asked permission to withdraw its application for an FPC certificate to build a line to serve gas to cities as distant as St. Paul and Dubuque. The plan was to buy gas in the Hugoton Field of Kansas, one of the world's greatest gas reservoirs. The company told the Commission that it had not been able to secure commitments of adequate reserves to supply the potential markets, and wished its application withdrawn without prejudice. The application was first filed in January 1946.

◈

Some manufacturers are fearful that the selling season this year will find oilburners in shorter supply than in 1946. They feel that the demand will be slightly higher due to the bad experience the public has had with gas, but they point out that dealers are not stocking burners against the coming demand.

Dealers have been encouraged by late-winter public resistance, to feel that prices are too high, and they do not want to be caught with a storeroom full of high-price oilburners when the market is falling. It is an easily understood attitude, but the manufacturers see little chance that name burners will be lower in price. They point out that the reductions have been mostly in unknown makes. The former $200 burners now are around $150, but the better-known burners still are in the $125 to $135 range, and there is little chance they will sell for less this year. Prices of parts and materials still are strong, and there is no indication of a decrease in labor costs. Name burner prices will remain firm, they say.

Dealers caught in the squeeze complain with reason, but a look at published figures will tell them where economies should be sought. Comparing 1946 with 1941, the dealers' price for a conversion burner was up 48%, but their cost was up 53%.

In 1946, the cost to a dealer of a conversion burner represented 32.1% of the installed price, against 32.4% of the 1941 price. Installation materials and labor, on the other hand, had gone from 38% of the installed price in 1941, to 40.9% in 1946, leaving the dealer out of pocket 2.6% on his direct costs, or the difference between a gross margin for overhead, sales expense and profit of 29.6% in 1941, against only 27% in 1946.

◈

Oilheating men who left Atlantic City late last month took home with them much more than the headaches, colds and fatigue which were so much in evidence. They had been a part of the most successful and productive convention the industry ever has held, and had witnessed the postwar rebirth of oilheating as a potent force for better living.

A number of knotty problems have been frankly faced, discussed and a start made on their solution. There are problems of supply and distribution that will not be easily whipped, but intelligent group action is the best way to wear them down or ease their impact on the industry.

Not the least of the accomplishments of the convention was adoption of a plan to streamline Oil-Heat Institute and channel its functions to serve better the interests of its membership. Division of members into groups of like interests gives an opportunity to work on technical and marketing problems in a manner that is not possible for the membership or directors as a whole. Organizational detail can be kept to a minimum under the plan, and the time and energy of the membership can be directed to more vital considerations.

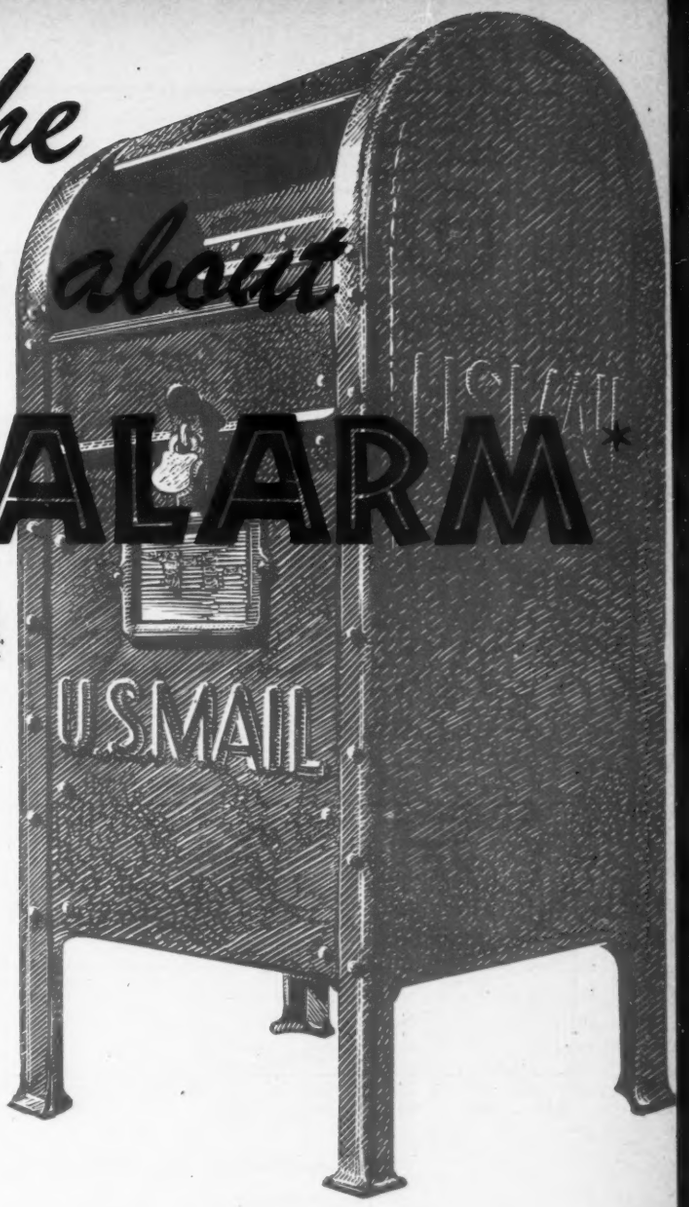
The Atlantic City convention has set the stage for a potentially profitable production. The profit the actors get from the production depends more upon the effort they put into their parts than on the scenery.

◈

The vast energy of the atom can be released at present only by the use of huge plants which might generate steam or electricity. Utility officials, however, are not showing much interest.

These officials have calculated that a $25 million atomic plant producing 75,000 kilowatts would represent a capital expenditure of $333 per kilowatt, against $165 per kilowatt for present-day equipment. Operating fuel now costs little more than half the calculated equivalent of $10 coal estimated for uranium. They'll wait-and-see.

Here's what the DRIVERS say about VENTALARM*



Just READ these excerpts from fuel oil chauffers' letters, and you'll understand why that mailbox is red-hot instead of the usual green!

1 "I think that they are the greatest labor and time saver for an oil man that has been thought up since they started putting pumps on the oil trucks."

2 "Ventalarm saves the company as much as ten minutes on each delivery and is always assured customer's tank is full after delivery."

3 "Saves time and oil, and helps the driver's morale by relieving his nerve strain. Its cost is saved a thousand times and more in labor alone."

4 "Personally, I'd prefer to work for 10% less, for a company with Ventalarms installed."

5 "Customers who have these Ventalarms are very pleased with their performance."

6 "To me it's the biggest blessing since they invented self-starters on automobiles."

7 "Ventalarm is a life saver to both employer and employee."

8 "There is no possible way of running over a tank with the alarm on."

9 "I have been driving a fuel oil truck for 13 years and have seen a lot of changes in that time. In regard to your Ventalarm, I must admit it is one of the best improvements in the industry."

10 "Any driver can increase his deliveries by nearly 100% if all tanks are equipped with Scully Ventalarm."

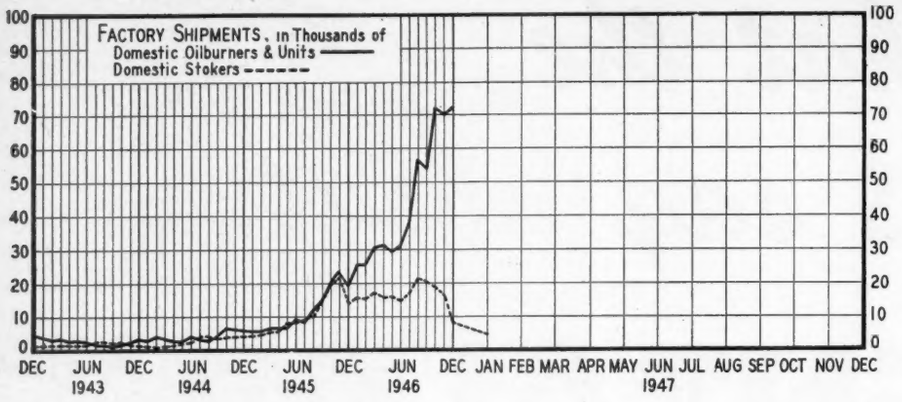
11 "Ventalarm is truly *'the automatic stop signal'* that provides a *safe, accurate fill up,* day or night."

Prepare now for next season's oil delivery. Offer your customers VENTALARM this spring. They like VENTALARM convenience and you benefit from VENTALARM savings. Write us for literature for use in your spring sales campaign. VENTALARM can be purchased through your regular supply house.

*T.M. Reg. U. S. Pat. Off.

SCULLY
VENTALARM
T.M. REG. U.S. PAT. OFF.
Whistling TANK FILL SIGNAL
SCULLY SIGNAL COMPANY

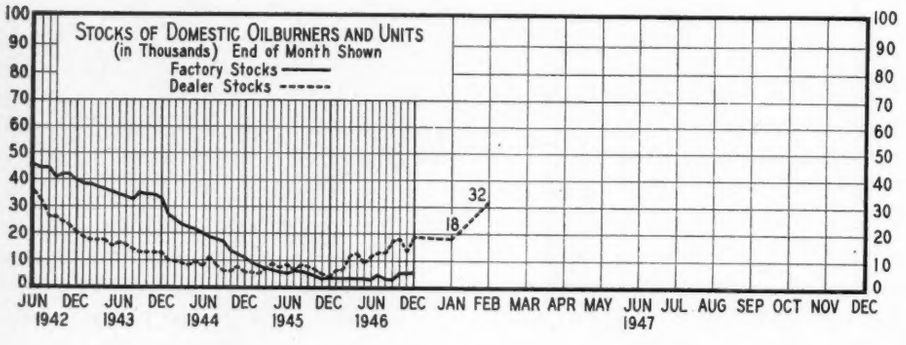
Manufactured in Canada by EMPIRE BRASS MFG. CO., LTD., London, Ontario


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units ——
Domestic Stokers ------
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 124 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	JANUARY			TWELVE MONTHS		
	1947	*1946*	*Percent Change*	*1946*	*1945*	*Percent Change*
Conversion	66,330	23,521	+182.0	468,974	119,663	+292.0
Boiler units	3,802	589	+546.0	27,503	7,695	+257.4
Furnace units	9,492	1,440	+559.1	40,836	14,555	+181.0
All domestic	79,624	25,550	+212.0	537,313	141,913	+279.0
Commercial	4,702	2,381	+ 97.5	40,676	33,077	+ 23.0
Total	84,326	27,931	+202.0	577,989	174,990	+230.2


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks ——
Dealer Stocks ------
32
18
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942 1943 1944 1945 1946 1947

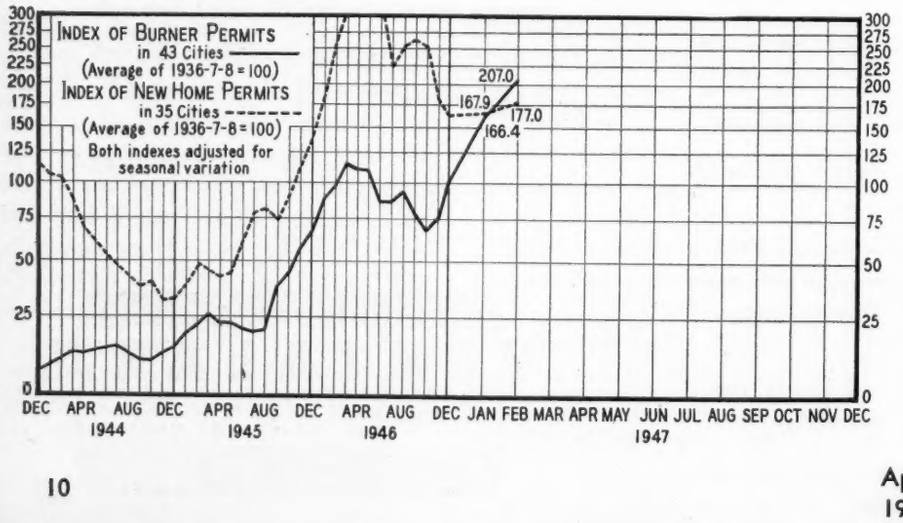
February Minimum Retail Prices: Key Dealer

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$520	$...	$925	$...	$800	$...
Lowest	285	...	450	...	400	...
Feb. Aver.	348	...	671	...	598	...
Jan. Aver.	342	...	665	...	593	...

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more; for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimum are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
February	157.9	Six months ago	137.4	February	144.6	Six months ago	136.6
January	165.3	Year ago	125.7	January	147.9	Year ago	124.6


INDEX OF BURNER PERMITS
in 43 Cities ——
(Average of 1936-7-8 = 100)
INDEX OF NEW HOME PERMITS
in 35 Cities ------
(Average of 1936-7-8 = 100)
Both indexes adjusted for seasonal variation
207.0
167.9
177.0
166.4
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947

Oilheating Trends

FEBRUARY INSTALLATIONS OF domestic oilburners and units are estimated at 47,419, a very substantial drop from January installations of 59,000. The total for the two months of 106,509 is nearly double the total for the first two months in 1946, which was 57,939. Factory shipments have been running somewhat ahead of installations, as shown by the buildup of dealer stocks. New orders taken by dealers in February for domestic oilburners and units were approximately 13,526, compared with new orders for 19,610 such jobs in February last year, and 18,990 in January, 1947. Combining the first two months of this year, new orders were 32,546 and in the first two months last year there were 47,326. The slump in new orders had started in some Midwest cities as early as last November and has now spread throughout most of the country. It hit the Eastern Seaboard states in January, and by March was apparent in Seattle. All industry elements consider this a temporary situation caused by high prices and the fact that the heating season is nearly over, which leads many people to wait a few months in the hope of lower prices. This will mean fairly slow sales for several months, unless dealers as a whole undertake substantial selling campaigns. The industry had fallen so far into the "over-the-counter" psychology that it has needed this temporary upset to jar it back into real merchandising effort.

February installations of reporting dealers were divided: Conversion burners 84%; boiler-burner units 9%; and furnace-burner units 7%.

BURNER STOCKS: Dealer stocks of domestic oilburners and units on February 28 were approximately 32,270, a big increase over the way they have been running in recent months. The month previous they had been 18,202. Back in June 1942, when the manufacture of burners was stopped for the war period, dealer stocks were approximately 38,000, so it can be seen that they are getting back to the prewar level.

SERVICE INCOME: February service department income of reporting dealers averaged $3,685, up 15% from $3,209 reported by the identical dealers in February, 1946. January service income had been $2,945.

BURNER PARTS SHORTAGES: An important topic of discussion among dealers continues to be the problem of getting burner repair and installation parts. However, a check this month shows the problem not nearly as serious as it was when last checked five months ago. The table shows the percent of dealers who reported serious difficulty getting transformers, motors, controls, and pumps on four dates during the past two years.

	July 1945	*Feb. 1946*	*Sept. 1946*	*Feb. 1947*
Transformers	19%	52%	73%	46%
Motors	47	49	47	37
Controls	44	44	33	23
Pumps	38	48	27	23

Other parts reported as scarce, although by a lesser number of dealers, are oil valves, furnaces, bellows, all electrical parts, and meters.

Installation materials are causing considerably less trouble than they were just a few months ago. The table on this shows the percent of reporting dealers who are having serious trouble. The items listed, compare February, 1947 with September, 1946.

	September 1946	*February 1947*
Piping	43%	34%
Tanks	37	29
Fittings	27	33
Wiring Material	20	9
Copper Tubing	13	9
Circulators	12	8

On first thought, it would appear that the reason for this improvement in installation materials would be that the volume of business has slowed down. However, we get that impression principally because volume of new orders has dropped. Actual installations have changed very little. In September, they were 46,363 and in February they were 47,419; thus, the improvement in supply of installation materials was an actual change.

TANK GAUGES: While checking parts availability, we had a specific request to investigate tank gauges at the dealer level. Country-wide, oilheating dealers had in stock on March 1 approximately 156,288 tank gauges, for which they paid an average price of $1.30 each. Among all reporting dealers, 69% bought the gauges from jobbers, and they paid an average price of $1.55. The other 31% of the dealers bought direct from manufacturers and paid an average price of $1.14. One point in this analysis stands out rather sharply. While it is true that the large majority, or 69% bought their tank gauges from jobbers, their stocks on hand represent only 17% of the total for the reporting group. The 31% of dealers who buy direct from manufacturers hold 83% of the tank gauge stocks. This is an instance where it is possible to confuse the number of dealers with their relative importance as volume outlets, unless the point is carefully watched.

GAS INDUSTRY TROUBLES: While it is widely recognized that the gas industry over-extended itself last year, to a degree that caused a lot of trouble this winter, it is nonetheless interesting to put a yardstick on these difficulties and learn the extent of them. Dealers reporting from all sections of the country indicate that in 33% of cities gas pressure this winter became weak enough that it was discussed in the newspapers and the situation generally recognized by the public. There was considerable geographic variation on this, as shown by this breakdown: In New England 13% of cities had weak pressure; Mid-Atlantic states 21%; Midwest states 57%; Pacific Northwest 75%.

(*Continued on page 124*)

Oilburner* and Building Permits

	OILBURNERS				DWELLINGS			
	February		2 MONTHS		*February*		2 MONTHS	
	1947	*1946*	*1947*	*1946*	*1947*	*1946*	*1947*	*1946*
Baltimore, Maryland	..	..	..	..	110	407	246	569
Binghamton, New York	..	..	..	..	3	8	4	10
Boston, Massachusetts	333	160	959	370	9	20	20	44
Bridgeport, Conn.	66	44	196	85	..	..	..	..
Buffalo, New York	..	..	..	..	3	30	11	36
Des Moines, Iowa	..	..	..	..	15	47	47	70
Detroit, Michigan	304	88	675	187	615	694	943	1431
Elizabeth, N. J.	21	24	37	46	0	3	1	3
Freeport, New York	29	19	56	39	..	..	..	..
Greenwich, Conn.	..	..	..	..	7	5	14	10
Hackensack, N. J.	..	..	..	..	3	0	3	2
Hartford, Conn.	169	56	308	66	..	..	..	..
Irvington, N. J.	18	23	37	40	2	0	3	0
Lynn, Massachusetts	..	..	..	..	6	4	10	4
Meriden, Conn.	16	22	48	36	..	..	..	..
Milwaukee, Wisc.	134	62	278	144	14	91	39	140
Minneapolis, Minn.	95	44	234	94	3	41	65	125
Montclair, N. J.	21	28	33	46	..	..	..	..
Mt. Vernon, New York	19	3	44	43	..	..	..	..
New Bedford, Mass.	84	56	154	98	..	..	..	..
New Haven, Conn.	68	28	134	56	..	..	..	..
New Orleans, La.	0	0	0	0	..	..	..	..
New Rochelle, N. Y.	24	13	47	46	1	12	9	13
Manhattan, Bronx, Rchd	609	438	1392	826	..	..	..	..
Norfolk, Virginia	80	49	183	77	26	12	50	23
Oakland, Calif.	6	0	7	0	..	..	..	..
Omaha, Nebraska	50	39	147	115	20	63	40	110
Orange, New Jersey	7	6	15	16	0	0	0	2
Paterson, N. J.	34	36	58	64	0	2	1	3
Philadelphia, Pa.	570	370	1129	672	..	..	..	..
Plainfield, N. J.	..	..	..	..	13	5	19	17
Portland, Maine	59	35	150	62	0	0	0	1
Portland, Oregon	..	..	..	..	87	182	172	382
Providence, R. I.	41	47	215	100	3	11	7	12
Reading, Penna.	..	..	..	..	0	0	1	1
Richmond, Virginia	36	56	76	73	61	89	88	145
Rochester, N. Y.	93	28	209	64	..	..	..	..
Rockville Center, N. Y.	17	13	35	26	0	2	5	6
Salem, Massachusetts	34	12	52	21	2	0	2	1
St. Louis, Missouri	107	55	224	105	21	24	36	38
St. Paul, Minnesota	142	93	284	205	28	43	52	110
Schenectady, N. Y.	69	15	121	49	..	..	..	..
Seattle, Washington	..	..	..	..	156	213	282	394
Springfield, Mass.	..	..	..	..	19	14	30	19
Stamford, Conn.	23	13	46	36	..	..	..	..
Syracuse, New York	6	11	21	29	6	26	6	32
Trenton, New Jersey	..	..	..	..	2	0	2	0
Utica, New York	..	..	..	..	0	1	1	1
Washington, D. C.	167	210	444	346	..	..	..	..
West Orange, N. J.	..	..	..	..	5	6	8	7
White Plains, N. Y.	10	14	29	38	2	2	6	2
Wilmington, Delaware	30	49	112	94	5	0	5	0
Worcester, Mass.	101	48	115	91	..	..	..	..
Yonkers, New York	15	36	62	72	..	..	..	..
Totals	3707	2343	8366	4577	1247	2057	2228	3763
Percent Change	+58.2		+82.8		—39.3		—40.8	

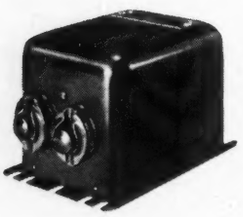
*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

OIL HEATING — LIGHTING — RADIO — ELECTRON

• SPECIFICATIONS •

"Write Jefferson Electric Transformers"

INTO YOUR NEW OIL BURNER SPECIFICATIONS



Economical, trouble-free ignition transformer service is an essential feature of good oil burner performance. Jefferson Ignition Transformers assure this dependability by advancements in engineering design coupled with advanced production-control methods.

The superiority of Jefferson Transformers is based on such vital fundamental quality characteristics as: improved steel to reduce electrical losses; advanced methods of using carefully selected iron for laminations followed by Jefferson's own process of annealing; also improved compounds, materials, and impregnation methods which provide greater resistance to moisture, extreme heat and cold.

In addition to these features, full control over all manufacture, assembly and inspection insures that every Jefferson Transformer is laboratory correct whether ordered in small lots or hundreds of thousands.

When next considering oil burner specifications, select your transformers from the Jefferson Electric Line for the finest in reliable transformer service . . . JEFFERSON ELECTRIC COMPANY, Bellwood (Chicago Suburb), Illinois. *In Canada*: Canadian Jefferson Electric Co., Ltd., 384 Pape Avenue, Toronto, Ont.

JEFFERSON ELECTRIC

TRANSFORMERS

fueloil & oil heat

Institute Eyes the Future

OHI Annual Convention Plans for Wide Industry Expansion

PLANS FOR AN AGGRESSIVE ATTACK on the industry's market and its problems were discussed and a program inaugurated at the 24th Annual Meeting and Convention of Oil Heat Institute at Atlantic City, N. J., March 24 to 26. A reorganization of the Institute was voted to streamline and make more effective its operation and authorization was given the staff to plan annual oilheating expositions and shows to be held in conjunction with future conventions. Work was started on a study of fueloil distribution, looking toward expansion of oil delivery into a year-around business, and plans were discussed for a concerted attack on the industry's materials shortages.

More than 800 members of the industry attended the three-day session which discussed market and technical matters, both in formal and open-forum meetings.

Institute officers for the next year are R. S. Bohn, (Preferred Utilities) New York, president; and A. T. Atwill (Quaker) Chicago, and C. R. Collins (Gerotor May) Baltimore, vice-presidents. A. E. Hess was reappointed managing director; C. F. Curtin, secretary-treasurer; and G. T. Kaufman, technical secretary. Another man yet to be appointed will be manager of the Distribution Division to spend his full time with the dealer groups.

Directors voted to organize sub-divisions of membership under the three main divisions of the Institute to facilitate the solving of problems peculiar to the classes of equipment manufactured or the interests of the membership. It was pointed out that gun burner manufacturers have little in common with manufacturers of industrial equipment or space heaters, and the interests of all would be better served by the establishment of sub-divisions of members having like interests. This applies to the Accessory and Distribution Divisions as well as the Manufacturer Division.

Interest in membership is being shown by refiners of fueloils, and formation of a fourth major division of the Institute is being considered to provide for the refiners, and major suppliers.

An Eastern oilheating show for the spring of 1949 was voted unanimously by the Board of Directors. The board had authorized the Chicago show for the week of April 5, 1948, at an earlier meeting. After discussion of competing expositions, it was decided that no other show adequately served the purposes of the oilheating industry, and that the OHI shows should be held each year. The staff is investigating eastern locations for the 1949 show, and announcement of the time and place will be made when the board has reviewed the possibilities.

R. S. Bohn, *new president of OHI*

Directors elected at the annual meet-

OHI Directors: *Seated (l to r)—J. F. Corrigan (alternate for K. G. MacCart), W. A. Kemp, W. A. Matheson, C. R. Collins, R. S. Bohn, A. T. Atwill, W. J. Schroeder, J. A. Collins, and J. W. Owens. Second Row: A. E. Coburn, M. J. Donahue (alternate for W. F. Brannan), H. H. Wilkinson, Ben Boalt (alternate for C. E. Lewis), G. E. Hochstein, R. M. Sherman, C. R. Jonswold, P. K. Addams, and M. L. Judd. Rear Row: C. S. Dieter, F. C. Haab, F. Gilbane, J. W. Warner, E. M. Ford (alternate for S. A. Loeb), and C. L. Hastings. Directors not represented are K. W. Dunn, G. R. Prout, S. H. Shipley, and F. P. Griffin.*

Bull session after a meeting. *Carl Jonswold (left) and W. A. Matheson make a point to George Hochstein, Charlie Collins, Bill Kemp and Bill Warner.*

ing for the Manufacturers Division were A. T. Atwill (Quaker); R. S. Bohn (Preferred); W. F. Brannan (Fluid Heat); C. R. Collins (May); C. S. Dieter (Bethlehem); K. W. Dunn (Century); G. E. Hochstein (Heil); M. L. Judd (Delco); K. G. MacCart (Petro); W. A. Matheson (Oil-O-Matic); M. A. Powers (Timken); G. R. Prout (G-E); R. M. Sherman (Silent Glow); S. H. Shipley (York); and H. H. Wilkinson (Herco).

Accessory Division directors for the next year are Paul K. Addams (Fitzgibbons); A. E. Coburn (FUELOIL & OIL HEAT); C. L. Hastings (Rochester Mfg.); W. A. Kemp (Sundstrand); C. E. Lewis (Perfex); S. A. Loeb (Webster); and J. W. Owens (Mercoid).

Distribution Division representatives on the board will be J. A. Collins (Western N. Y.); F. Gilbane (New Eng.); F. P. Griffin (Washington); F. C. Haab (Philadelphia); C. R. Jonswold (Chicago); W. J. Schroeder (Wisconsin); and J. W. Warner (Washington, D. C.)

Mr. Collins of Buffalo was elected chairman of the Distribution Division with Mr. Griffin of Seattle vice-chairman for the Pacific Coast and Mr. Jonswold of Chicago as vice-chairman for the Middle West. Mr. Owens of Chicago was elected chairman of the Accessory Division. Paul Addams is vice-chairman.

Convention sessions got under way on Tuesday afternoon with an industry engineering meeting under the chairmanship of Frank H. Faust, General Electric Co., chairman of the OHI Engineering Committee.

G. T. Kaufman, technical secretary, summarized the various activities of the committee during the last year and the work still in progress. He revealed that the writing of a new edition of the Handbook of Oil Burning now is actively under way; that OHI is helping in the writing of new fueloil specifications to replace CS12-40, and is working on revisions of the standards of the National Board of Fire Underwriters. He outlined the development of the Combustion Reference Test Unit and the work that was done on the testing of catalytic oils in various manufacturers' own laboratories.

Brain trust: *Frank Spencer, ex-chairman; Fred Beckwith, ex-director; and Ted Caldwell, ex-secretary, all of the Distribution Division.*

"Probably the most important, and certainly the most time consuming of my own personal activities was the preparation of the Basic Service Text," Mr. Kaufman said. The first printing of 3,500 copies was sold in five months and the second 3,500 lasted only ten months. Another 2,000 copies now is being printed."

Prof. W. J. King, director of the Sibley School of Cornell University, spoke on the application of the jet principle to heating. In a talk illustrated with slides he revealed that it is possible to develop 8 shaft horsepower per gallon of oil burned in addition to making available all the heat of combustion. He speculated on the possibility of operating such heating specialties as fans and circulators from the combustion of oil.

H. M. Hancock, Dr. A. B. Hersberger and E. T. Knight, all of the Atlantic Refining Company, presented a paper on the future supply and specifications of heating oils. This paper will be presented more completely in a future issue. It was revealed that the petroleum company expects 6,200,000 dometic oilburners to be in operation by 1955, using 250,000,000 barrels of distillates, and 740,000 commercial burners burning 90,000,000 barrels of oil for heating alone. By 1955, 60% of the domestic burners operating will have been manufactured since 1946.

Forum Panel: *Robert Gray, John W. Connolly, W. A. Kemp and W. A. Matheson.*

The Wednesday morning Merchandising Session was in charge of Carl Jonswold, the retiring chairman of the Distribution Division. The three speakers were A. T. Atwill, president, Quaker Mfg. Co., Chicago, F. W. Hainer, vice-president, Cleaver-Brooks Co., Milwaukee, and Robert Gray, of FUELOIL & OIL HEAT, New York.

Atwill emphasized the many interests shared in common by the vaporizing type equipment manufacturers and those making pressure burners, pointing out that their fields of influence more or less divide at the one-gallon-per-hour capacity line in oilfiring. Typical paragraphs from his talk included these:

"A vaporizing pot type burner has no place in this industry where capacity requirements exceed a gallon an hour. That is a personal opinion . . . it may not be shared by some others in our industry.

"But there is one field where this type of burner is ideally suited. That is the

Engineering Session: *Prof. W. J. King, Dr. A. B. Hersberger and G. T. Kaufman await introductions by Frank H. Faust.*

Industry Luncheon *which heard John Connolly on the problems of oil supply.*

F. W. Hainer *(standing) and* **Carl Jonswold.**

small home where a gallon of oil an hour, down to one-half or even one-third gallon is ample capacity for the heat loss requirement. From the standpoint of first cost and economy of operation, in those installations, the vaporizing burner, I am sure, meets a need not heretofore reached by any other type.

"We now have over 3½ million pot-type space heaters alone, and possibly another million in water heaters, floor furnaces and furnaces. We made a million space heaters and three hundred thousand floor furnaces last year and they would have taken another million away from us if we could have made them.

"Most of these over four million pot type vaporizing burners are in oilburning space heaters . . . stoves, if you please. How many of them have been bought in competition with a central heating plant and a burner which you could sell? Not a half of one per cent, I am sure.

"Thirty years ago 51% of the American homes were stove heated, according to the U. S. Census. Do you know what per cent of American homes are stove heated today? Only 58%. Only 14 states have more homes heated with central heating plants than with stoves. All of those states are in the North. In not one of the southern or western states are anywhere nearly half of the homes heated with central heating plants.

"Do I think a stove or space heater provides as good and comfortable heat in a home as a central heating plant? Of course not. There is no comparison between the distribution of heat from a space heater and that which can be obtained from a properly installed furnace or boiler.

"Then why has the number of stove heated homes increased in the last thirty years? Has the standard of living gone down? Not at all. In most cases the standard has greatly increased. It is the amount of the shelter dollar that goes into the heating plant for the home that has dropped, as every student of the heating industry knows.

"When I started in the heating business it was not unusual for an architect to allocate 12 to 15% of the shelter dollar for the heating plant. In 1941 I understand that that figure had dropped to 4½%. Astounding drop, but it's true.

"What has taker. the money that formerly went into the central heating plant? Better merchandising of plumbing equipment; better merchandising of modern kitchens, refrigerators, washing machines; better merchandising of space heaters."

E. T. Knight *and* **H. M. Hancock**

Atwill then went on to emphasize that great numbers of people get their first experience with oilheating by using these space heaters, and that they constitute a large reservoir of prospects for oilfired central heating as families improve in social or financial scales.

Hainer, the next speaker, brought an informative discussion of unit steam generators, which have in very recent years become an important application of oil-firing. He pointed out that these were originally and primarily designed to furnish steam for industrial processes and only recently have found use for heating.

These portable units, according to Hainer, bring higher average efficiencies than stationary boilers due to simplicity of operation and their higher rate of heat transfer due to faster circulation. The manufacturers guarantee for them 80% efficiency in the conversion of fuel to steam.

When they are used in permanent boiler rooms the rooms can be a third smaller than with traditional boilers, Hainer explained, and he also made mention of the added flexibility inherent in these units, because several can be used about a plant and thus each one operated at full load as specifically needed, rather than running a large central plant at a fraction of its capacity, with attendant inefficiencies.

Gray, the final speaker of the session, had been assigned the topic of "Competitive Fuels." He traced probable developments of gas, coal and electricity for heat-

Roy Fox *and* **Larry Davis** *of Socony-Vacuum with* **H. B. Van Cleve** *of Maritime Petroleum.*

ing over the next few years, and showed that none of these need be competitive in a true sense. Our only real competition, according to Gray, is within our own companies or our own industry. Only two things can fortify oil-heating against whatever outside threats may come . . . building an unassailable public acceptance for our products (which we do not now have), and doing a continuous and effective job of sales promotion, he believes. The San Francisco story in this issue, "Gas at Half the Price," describes an example of how these two factors can work to overcome even the worst kind of cost situations.

A luncheon meeting Wednesday noon was presided over by W. A. Kemp, who introduced J. W. Connolly of the Standard Oil Company (N. J.), whose paper is presented more fully elsewhere in this issue.

The luncheon was followed by an open forum session conducted by W. A. Matheson who made the one prepared talk at this session. Citing the industry's growth, he pointed to the need for greater engineering effort if the business is to better serve the public and continue its startling growth. "We cannot engineer against the coal shovel and expect public enthusiasm," he said. "That would leave us where the automobile industry might have been if it were satisfied only to beat the horse and buggy."

The convention closed with the Annual Banquet, at which R. M. Sherman, toastmaster, presented Senator Raymond E. Baldwin of Connecticut as the featured speaker.

There was discussion both at the open forum session and at the annual meeting of spot shortages of heating oils due to inadequate transportation and storage facilities. A committee headed by Carl Jonswold is charged with collecting information on the needs and suggesting a solution. Other committee members of the group are Mr. Matheson, Mr. Kemp and Mr. Gray, and others from the Distribution Division are yet to be appointed.

Directors voted to hold their next meeting in the East on July 8, but not in any of the larger cities. The location will be announced later.

RE-ELECTED OFFICIALS

A. E. Hess *(left) managing director of Oil Heat Institute*

and

C. F. Curtin *(right) OHI secretary-treasurer for the next year.*

Fred P. Griffin, *Griffin Fuel Co., Seattle, Distribution Division vice-chairman for the West.*

John Straitz *and* **Ed Baily** *(National Airoil),* **Chief Bender** *(Sinclair), and* **Gene Olsen** *(Delavan).*

Most Priorities End March 31; Some Items Remain

CIVILIAN PRODUCTION ADMINISTRATION has acted to eliminate priority ratings after March 31, except for very limited use in support of the Veterans' Emergency Housing Program and in aiding the Veterans Administration Construction Program, mostly for hospitals. Ratings already issued for other reasons will expire.

The action was accomplished by issuance of Priorities Regulation 35, which contains a new rating symbol "RR," and by changes in Priorities Regulations 1, 3 and 28. CPA also published a table of building products (Table I to Priorities Regulation 28) and a supplement to PR-28 which states the conditions under which RR ratings may be granted from now on.

Provision is made, however, for the continuance of valid ratings now outstanding when they are to be used to obtain construction items listed on Schedule A to Priorities Regulation 33. The new regulation also provides that a producer of a critical building product may convert his old AAA, MM, or CC rating to the new RR rating by March 31 for the purpose of getting any item needed to maintain or increase his production of a building material or product listed on Table I to PR-28.

Manufacturers of low pressure boilers for residential heating, warm air furnaces (including floor and wall furnaces), and furnace pipe, fittings and duct-work, may get help in obtaining production materials, and in getting production equipment for replacement only.

Gas at Half the Price

Yet San Francisco Bay Area Still Does a Lot of Oilheating

by
Robert Gray

FOLKS AROUND THE SAN FRANCISCO BAY area have heard about oil fuel probably for more years than those living anywhere else in the country. Long before heavy oilburners created a sensation by heating several buildings at the Chicago World's Fair in 1893, they had been used in boilers of ships steaming out through the Golden Gate.

Even small distillate burners were known as early as the turn of the century, when they were becoming popular in the poultry raising industry up the bay. Then after the great San Francisco fire of 1906, with gas somewhat in the dog-house because broken mains had caused much of the damage, oilburners started going into homes on a broad scale. Crude burners they were by today's standards, and some of those of the Rube Goldberg inclination are just now coming out, as modern equipment slowly becomes available for replacement.

Coal for domestic use has always been scarce in the Bay country, so for generations the preferred heating fuels have been oil or gas. A great oilburner market, and consequent fueloil demand, developed in the 1920 to 1935 period . . . or in fact it is still developing, but at a much slower growth rate. For in 1935 came cheap natural gas, and today it is still being sold for home heating at around 3.5¢ a therm, or less than anywhere else in the country.

When cheap gas arrived 12 years ago, home heating oil was selling at 3.5¢ a gallon, for California's population had not yet grown up to match the stature of its oil industry, and distillate fuels were much too plentiful to support a sound price. Thus, the natural gas utility started its home heating drive when oilheating was even cheaper than gas, and it looked like a race to see which industry could beat the other to the bankruptcy court.

In the first few years after the cheap gas came in, oilburner dealers toppled by the dozen, for the gas company was doing intensive and widespread sales promotion. Gas was getting into most of the new homes and some of the old ones, for the same reasons that gas made rapid gains in Cleveland, in Minneapolis or St. Louis in those same years . . . there was only one gas company, with money and determination, as opposed to a hundred burner and oil companies, not organiized to match the gas promotional job.

When most of San Francisco's strictly burner dealers had to give up, the fueloil companies kept going, for their demand was still firm, and they gradually inherited the burner sales business. In the few years just preceding the start of the war, gas got the lion's share of new automatic heating business, yet there was always some modest oilheating growth, and today the demand for home heating oil in all of the cities surrounding the Bay is about a third above what it was 12 years ago.

During the 12 years there has been a radical change, however, in comparative fuel costs, for while gas has stayed put at the give-away price level of 3.5¢ a therm, fueloil prices have advanced to 8.5¢ a gallon. Most of this oil advance has come since the war ended. The Pacific part of the war put a terrific strain on California's oil stocks and reserves, and the industry is not yet back to a comfortable supply position. As a result, fueloil prices must be at a level that encourages refiners to run distillate in good volume instead of too strongly favoring gasoline.

A. S. Kozman, *manager of Cook's Oil Co., San Francisco, who finds gas less competitive when it's cheap.*

Fueloil distributors understand this and are not asking for oil prices to be reduced, but they certainly wish that gas prices could be raised to somewhere near a competitive cost level. On the other hand, the gas utility is not now driving for business for their supply is getting tight, and some oil men say that it's easier to sell against gas heating today than it used to be when oil was cheaper than gas, but when the utility was hard after sales. That is particularly the viewpoint of A. S. "Chug" Kozman, San Francisco and Oakland manager of Cook's Oil Co., which is perhaps the largest fueloil distributor working up and down the bay.

To get the flavor of the market where gas heating costs about half that of oilheating, five representative fueloil distributors were selected, more or less at random, for interviews. Kozman, of Cook's, one of the five chosen for discussion, couldn't be located around his working places, but was caught up with and photographed at the Pacific Coast Oil-Heat Institute meeting in Portland.

Cook's first fueloil bulk plant was built at San Jose in 1900, and subsequently they built others at Oakland, South San Francisco, San Mateo, Walnut Creek and Gilroy, covering about a hundred mile spread, north and south along the bay cities. Featuring home heating fuels, No. PS-100 and PS-200 (similar to No. 1 and No. 3 of the Midwest) Cook has 26 trucks delivering these products, compared with only 4 trucks on residuals and two trailer jobs to move product between the bulk plants.

Not quite all of the distillate gallonage is for home heating. About 10% of it is sold for orchard heating oil, to protect fruit orchards from frost, for dehydrating oil, to dry fruits, and for diesel tractors. In some seasons there is little or no need for smudge oil, but Kozman points out that the company must always stand ready to supply as much as a half million gallons a month, and any company that failed in its responsibility to the fruit crop might as well move to Florida.

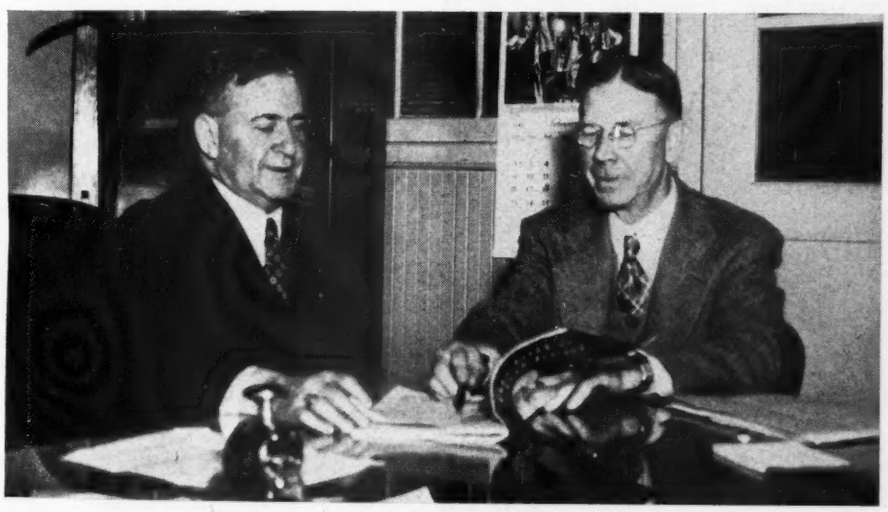
For understandable reasons, the bulk of

Cook's new oilburner installations are in suburban or between-towns areas where gas lines are missing or inadequate, but this is sizable business, for California abounds with country places. Cook markets Standard of California fueloils, Ray and Oil-O-Matic oilburners.

The gas interests have done a very effective job in some spots to make it difficult for oilburner people. For example, no one in northern California can have an inside oil tank unless it is buried under a concrete floor slab. This leads to curious practices. Some outdoor tanks are above ground . . . some outside buried tanks are as small as 50 or 100 gallons. In Oakland no oil tank may be under any part of a building. In Alameda any oilburner must be in a fireproof room, only pressure burners are permitted, and oil tanks may not be filled with a hose from the curb—the truck must drive in on the property.

In the past, most of the major oil companies have done little to help the oilheating crowd in its fights against political discrimination, for the reason that heating oil was a by-product selling below cost of production. Now that the economic picture of heating oil has radically changed for the better, there are indications of a stirring along Bush Street, signs that point to a better understanding of the competitive fuel problem, and that soon.

Most active competitor of Cook's, particularly in the East Bay cities, is the S. T. Johnson Co., operating primarily in Oakland, San Francisco and Sacramento. This Company is widely known throughout the industry as a manufacturer of oilburners, principally heavy oilburners, but only locally is it recognized that these people do a strong retail fueloil business around their home base. In fact, the president of the company, J. C. Johnson, and its vice-president and treasurer, Leo Jacobs, both started working for the company as retail burner and oil salesmen in San Francisco immediately following the great fire in 1906.



Leo Jacobs *and* **J. C. Johnson,** *respectively vice-president and president of S. T. Johnson Co., have retailed fueloil in the bay area since 1906. Below, Johnson at one of the Company's several bulk plants, on Oakland tidewater.*

Johnson at present sells slightly over ten million gallons annually, of which nearly half is residual fuel. He handles this with only 12 tank trucks, and they are of 1,260 gallon size. This sounds like some kind of record for truck utilization, although, of course, San Francisco heating is more evenly spread around the calendar than in most parts of the country. There is considerable heating done in the summer, and the winter peak is not so sharp.

The Johnson Company has had fair luck in selling domestic burners in direct competition with gas . . . in other words, installing them in the neighborhoods where gas is plentiful and cheap. Their experience checks with the findings of some of the consumer surveys on fuel preferences made within the past two years. In the FUELOIL & OIL HEAT survey of 20 northern cities, slightly over 30% of the families interviewed wouldn't heat their homes with gas at any price.

There are two principal reasons why some California families won't have gas for heating. First, some are afraid of it . . . afraid it might explode, or contaminate the air in the house; second, some have experienced low gas pressures and, exasperated over their inability to do anything to help the situation, have thrown out the gas burners and put in oil so they would at least have a choice of suppliers.

Johnson sells oil furnished by Tidewater Associated.

On the peninsula north of San Francisco, an area that has enjoyed rapid growth in very recent years, since the Golden Gate bridge was completed, one of the more interesting oilheating operations is conducted by McPhail Fuel Co., owned by brothers John and Graham McPhail. With headquarters at San Rafael, the Company also has bulk plants at Santa Rosa, Petaluma and Sausalito, as well as heating equipment and appliance display rooms at these points. Having its own sheet metal shop for ductwork, the company installed in 1946 upward of $150,000 worth of heating equipment,

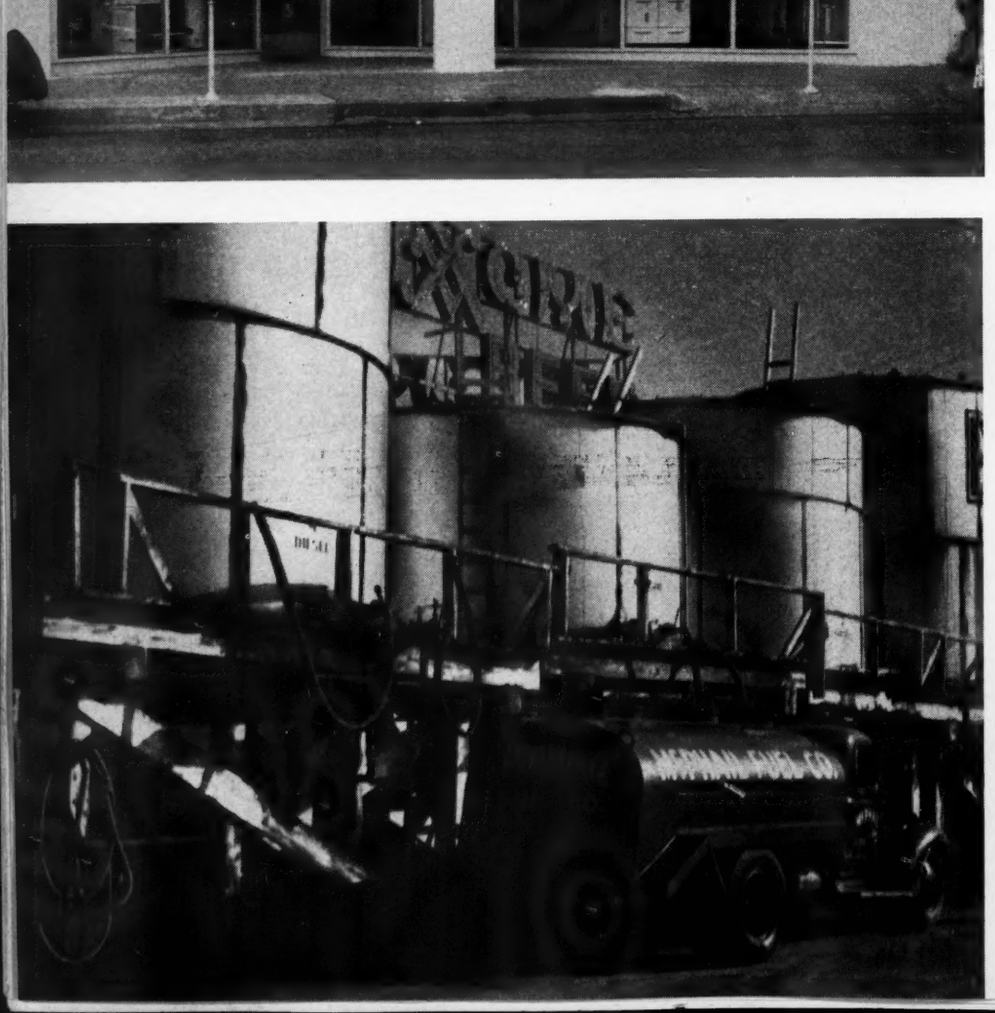
90% oilfired. Burners sold are Ray, Oil-O-Matic and Airtemp; fueloil is from California Standard.

However, the really significant discovery in an interview with John McPhail is the system he has devised to get people to use large oil tanks and at the same time insure them good burner service and best possible oilheating. All of his household oil customers pay extra for their fuel to have burner service included. If their oil tank is of less than 400 gallon capacity they pay an extra 1½¢ a gallon for burner service. If their tank is of 400 gallon or more capacity they pay only an extra ½¢ for service. In other words, with the posted price of furnace distillate at 8½¢, McPhail's customers pay either 10¢ or 9¢, depending upon their tank size. They then get without further charge a summer vacuum cleaning and tune-up job, plus all needed emergency service. Parts are not included, but perhaps will be next season with the price raised further to cover this, when spread over the average consumption per customer of 1,000 gallons.

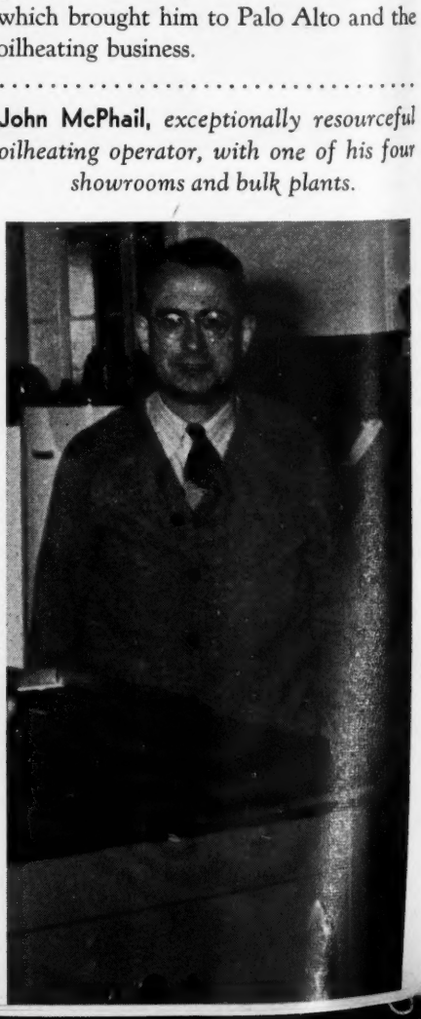
One of the McPhail brothers was at one time a Fuller Brush salesman and he was convinced that, within reason, people are more concerned with excellent product or service than with its cost. Obviously, oilheating cost more than gas heating, so he believed that the important thing was to provide near-perfect oilheating and charge what it was worth. The public liked the idea, along with other McPhail policies, with the result that the company has the largest fueloil business on the north peninsula.

Down the other peninsula, to the south of San Francisco, one of the most colorful characters in Bay Area oilheating is Captain A. S. Walton, who operates the Horabin Oil & Burner Co. at Palo Alto. Smaller in annual volume than the other companies interviewed, Horabin has just the one bulk plant, operates six trucks and sticks to a 15-mile radius, got most of its oil customers through selling burners, and has a highly trained service crew. It sounds like a simple operation, but oil men around the bay say that Walton has made more money than most of them. Again it's a California Standard oil connection, and burners currently sold are Aldrich, Dowagiac and Ray.

Captain Walton, USN Retired, came from a substantial early California family that was financially ruined in the 1906 earthquake and fire. While selling newspapers on the city streets, he won a competitive examination for admittance to Annapolis and became a naval officer. Seriously wounded in World War I, he was in hospital for two years and later given a disability retirement in 1927, which brought him to Palo Alto and the oilheating business.



John McPhail, *exceptionally resourceful oilheating operator, with one of his four showrooms and bulk plants.*



Capt. A. S. Walton, *USN, Ret., who took a vacation from oilheating to lick the Japs, and* **Arnold Knight,** *who carried on meanwhile.*

A. J. Evangelho, *general manager of Peninsula Burner & Oil Co., San Jose, explains a new space heater to* **Mrs. A. T. Smith** *and* **Mr. Smith,** *company president.*

In early 1941, seeing something coming and still at heart a Navy man, he wangled a temporary appointment back to active duty, was chief engineer on the Oklahoma at Pearl Harbor, when the Japs sank it and him, cracked up some more of his anatomy. Promoted to full captain, he later headed landing task forces at Pelelieu and at Okinawa. Back home, retired again in name only, he has ambitious oilheating plans, but wishes for the moment that one or more of his three suppliers would ship him some oilburners.

During Walton's five-year Jap hunting vacation, Arnold Knight operated the business and continues as general manager.

Fifth and last of the companies studied, to interpret San Francisco Bay oilheating, was Peninsula Oil & Burner Co., with headquarters at San Jose, southern end of the bay. The president of the company is A. T. Smith and general manager is A. J. Evangelho. This operation is large in that it has various ramifications. First, it is a Shell outlet, has four fueloil bulk plants, strung down the peninsula from San Francisco to San Jose, and operates 12 retail fueloil trucks.

Another large part of its business is over-the-road transport, using trailer units and handling all petroleum products in volume of about eight million gallons a month—contract hauling for anyone.

With its own sheet metal shop and large appliance showroom, Peninsula sells equipment for oil, gas and liquefied petroleum gas. Its LPG business is interesting in that a lot of it is sold for home heating. Starting only two years ago, the company has installed LPG for heating in 500 houses, and this does not include the number put in for only cooking or water heating. Of the home heating jobs, two-thirds are for space heaters, floor furnaces, wall furnaces and the like, while one-third are in central heating plants.

Key to economy in the use of liquefied petroleum gas seems to be in size of delivery, which means size of tank. Peninsula will rent a tank to a customer for $14 a year, with 150 gallon capacity. It then charges 12¢ a gallon for the fuel delivered. However, the same fuel can be bought for 9¢ a gallon if the customer has his own storage tank with 400 or more gallons capacity. Peninsula will sell him a 400 gallon LPG tank for $395 installed.

At the 9¢ price, heating costs are not too much out of line with oilheating. A gallon of butane, for example, contains 101,000 Btu's and propane has about 92,000 Btu's per gallon. Because butane will not vaporize at temperatures below 32° F., and propane will vaporize all the way down to —44° F., blends of 60% butane—40% propane are used in summer and a reverse 40-60 in the winter.

Thus, LPG heating appears to cost between a third and a half more than oilheating, which doesn't seem to retard its growth much in an area where people don't take fuel costs too seriously. And of course LPG is a new thing, it's profitable and getting active sales promotion.

If the San Francisco Bay area has a story for the rest of the oilheating industry, it quite clearly is that people as a whole are less influenced by actual fuel costs than they are by vigorous sales and advertising promotion on behalf of any of the fully-automatic heating fuels.

Improving Winter Air Conditioning

Part Two: Balancing Btu Load, Gph Rate, Cfm, and Controls

by

J. W. Schulz

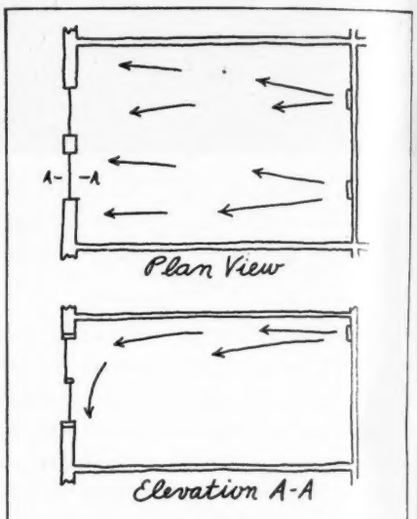
The first part of this article, which appeared in the last issue of FUELOIL & OIL HEAT, *should be read before the following, which is part two.*

SERVICE CALLS and difficulties which certain oilburner dealers have been charging against modern furnace-type systems in general are caused in reality by excessive firing rates and the use of improper settings of the furnace temperature controls. Where winter air conditioning systems are giving trouble, the gph firing rates often are 50% to 100% excessive. True, over-ambition of the circulating blower is a complicating factor. A home owner complains that cool air blows from the warm-air registers. The trouble lies, for one thing, in the blower's handling too much air. Unaware of this or uninterested in the cfm handled by the circulating blower, the oilburner service man increases the fire size to raise the furnace temperature. He very likely will make one more wrong move: raise the setting of the bonnet control which starts and stops the circulating blower. Thus, excessive air circulation, excessive firing rate, and improper setting of the blower control often are related.

The cause of both the excessive air circulation and the excessive firing rate can be traced back in a good many instances to the fact that the furnace load was overestimated in the first place. When he figured the heat losses of the rooms, determined the cfm to be handled by the blower, and selected the firing rate, the man who planned the system was over-anxious about being able to heat the house properly on the coldest days. Especially when the heat losses of rooms are guessed instead of being figured closely, the figures may turn out to be very high, "to play safe" as contractors explain. It is well known, to be sure, that not only can a generously oversize heating plant provide 70° easily on the coldest mornings, in addition it usually runs fuel bills lower than those of a heating plant which is undersize or just the right size. Indeed, this point is of great importance to engineers and contractors who aim to provide maximum comfort together with minimum fuel bills. Still, installing a greatly oversize furnace system and arriving at exceedingly low oil bills together with great discomfort for the occupants of the house is not the good answer to this problem.

Heating engineers and contractors who take pride in using the latest methods for figuring the heat losses of rooms often believe they are figuring closely when actually the rooms will need, as the maximum from the furnace-duct system, something like half the amount of heat indicated by the hourly heat loss figures of the rooms. For reasons to be listed later, the rooms may need about half as many Btu's to heat them to 70° on a zero day, as the heat loss figures indicate.

Here is an example of over-figuring the furnace load: A well-educated heating contractor declared emphatically that according to his very accurate figures an insulated seven-room house would need 115,000 Btu per hour from the warm-air registers on a zero day. According to modern scientific figuring, said he, the rooms would lose this number of Btu's per hour to outdoors when kept at 70° on a zero day. Next, he went on, a furnace which gives 138,000 Btu per hour to the duct system would be needed and would have to work continuously, that is be fired steadily 24 hours a day, to heat the house to 70° on a zero day. The furnace load of 138,000 Btu per hour was obtained by adding an allowance of 20%, to account for heat lost from the warm-air ducts, to the total of the heat losses of all the rooms. The contractor believed that for this house, with a large basement not particularly well heated, 20% allowance for the duct loss was figuring closely. To go on, the furnace would be fired 1.5 gph because at 65% efficiency this firing rate would give a furnace output of 135,525 Btu per hour (139,000 x .65 x 1.5), nearly equal to the figured furnace load but again, pointed out the heating contractor, figuring the thing very closely.



Trouble: Cold drafts with continuous blower operation. Air temperature 120° maximum

Diag. 1

Firing the furnace 100% of the time to heat the rooms to 70° on a zero day would take 36 gallons of oil in 24 hours. This is arrived at simply by multiplying the 1.5 gph rate by 24 hours.

Actually, however, when the house had been completed and was occupied, and the fuel consumption could be checked closely, it was found that the burner used 16, not 36, gallons of oil on a zero day. Naturally, this was very fortunate for the owner of the house, for he did not want to use 36 gallons of oil on a zero day for the sake of verifying the furnace heat output figure which the heating contractor thought applied. But aside from that, the actual oil consumption figure proved also that the furnace and the circulating blower, like the oilburner, had outputs so great that they had to work only 11 hours out of 24, according to the design basis and design delivered-air temperatures, to heat the house properly on a zero day.

The heating contractor had figured that on a zero day the warm air from a typical register should be 145°, his design tem-

perature, and that on a zero day the circulating blower would operate 24 hours a day. But actually the burner ran a total of only 11 hours on a zero day. Therefore operating the blower continuously on such a day without overheating the house resulted in air much cooler than 145° coming from a typical warm air register.

With the outside temperature about zero, two experiments were made in this house. First, while the circulating blower was operated continuously all day, the burner was started and stopped only by a furnace bonnet temperature control so adjusted that air at about 145° came from a typical warm-air register. The results were that the house was greatly overheated and the fuel consumption was increased by about 70% over normal.

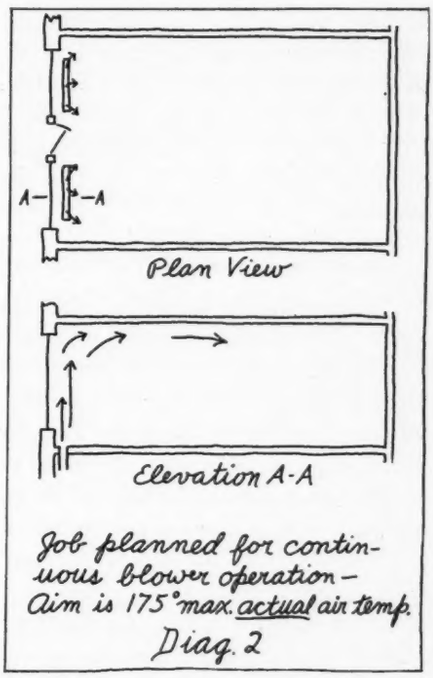
As the next experiment, the circulating blower still was operated continuously and the oilburner still was started and stopped only by a furnace temperature control, but by using cut-and-try methods the temperature of the warm air from the registers was adjusted to be suitable for keeping the house at about 72°. With the register air temperature between 105° and 115° (not 145° for which the system was designed) the house was heated properly on the coldest days.

According to the "design" figures and the intentions of the heating contractor who had planned this system, to heat the house properly on a zero day would take 36 gallons of fueloil and would call for the continuous flow of 145° air from the supply registers. According to actual experience, on a zero day 16 gallons of oil were used, and a continuous flow of air at about 110°, at the registers, heated the house properly.

A good many men looked at the recorders and other instruments which were being used to check the operation of this heating plant. One man not well acquainted with heating problems made the oddly significant remark that since this furnace-burner combination had to operate only 11 hours out of 24 to heat the house properly on the coldest days, the desired steadier operation of the unit could be achieved simply by adding another seven-room house so that, running 22 hours out of 24, the oilburner and furnace would be heating two houses instead of one, which seemed to heat all too easily.

When he finally realized that his design intention of having 145° air flow continuously from the supply registers on a zero day could not be accomplished easily on this installation, the heating contractor responsible for this system asked, "Where is my faulty thinking? How is it that the rooms need less than half the number of Btu's to heat them to 70° in zero weather than my heat loss figures indicate?"

First, there is the matter of outside weather. Using standard and well-accepted methods to figure the heat losses of rooms, a contractor may allow for out-



Job planned for continuous blower operation — Aim is 175° max. actual air temp.

Diag. 2

side wind, so make the heating plant larger than it would be if he had not made this allowance. Yet there may be no wind on the day when the fuel consumption for a zero day is being checked. Another weather factor is sunshine. In figuring heat losses, no allowance is made for the fact that heat from the sun may, even in coldest weather, help heat the house. Few homes receive no benefits of sun heat; many receive considerable sun heat, which reduces oil consumption and "on" time of the burner. In figuring the heat losses of rooms, certain men plan on the outside weather being at its worst, with respect to heating, on the coldest days, but what they plan on may happen seldom or practically never.

More important than the weather influences is the fact that the warm air supply registers provide only part of the heat which heats the rooms. Actually a house is heated by the occupants, the electricity and gas used in it, the water heating equipment and even the hot water drawn from the faucets, warm air ducts which are not taken into account as giving heat to the rooms, and the chimney, smokepipe, and furnace itself.

Tests made in 1946 in the IBR Research Home indicated, for example, that the radiators had to provide only about 50% of the total heat required in winter to keep the house at 70°. About 10% of the heat needed in the rooms was provided by the lights and occupants, 15% came from the inside chimney, 10% was given off by the smokepipe, and 15% was obtained as the result of the "loss" of heat from the boiler and the piping of the heating plant.

Another important factor has to do with the reduction in heat loss which is the result of furnishing a home. Invariably the heat loss figures are based on the rooms being empty. Actually, after a house is furnished the heat losses are considerably reduced by the placement of furniture against or close to the outside walls, the installation of bookcases, kitchen cabinets, etc., the use of shades and drapes which were not taken into account, and sometimes by rugs on floors over unheated spaces.

Those, then, are the reasons why forced-air plants designed for register-air temperatures of about 150°, for coldest days, often give much lower register-air temperatures. Trouble and discomfort often are the results of this. The air comes from the supply registers at too low a temperature, and complaints about excessive air movement and drafts are the result. The trouble is worse on mildly cold days, for then the temperature at the supply registers is still lower. Diag. 1 shows the troublesome air currents in a large room which is air-conditioned summer and winter by a system which provides continuous blower operation throughout the year. On the coldest days, according to temperature recorders used for check-up on this, the temperature of the warm air from the registers did not exceed 120°, although the system was designed on a basis of 150° air coming from the registers. The remedy for the trouble consisted of reducing the flow of air from the supply registers to the degree that in zero weather the warm air had to be as hot as 150° in order to keep the room at 70°. Now, about half as much air enters the room, giving half the air

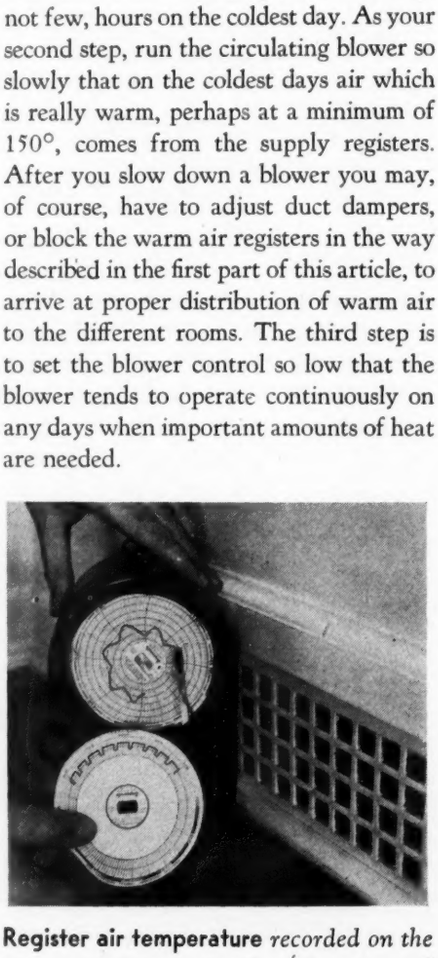
movement which there was to begin with. In addition, the air which enters the room is really warm; anyone who takes the trouble of reaching up into the stream of entering air concludes that warm air is coming from the registers, whereas earlier the occupants complained continually that "nothing but cold air ever comes from the heating plant." Of course, the big trouble with any heating plant which gives cool air from the registers on the coldest days is that on the more numerous moderately cold days the register-air is at a still lower temperature. Today few men argue against the principle of having the blower circulate air most of the time during the heating season; continuous operation of the blower is considered necessary for maximum comfort on any days when appreciable amounts of heat are needed. It might be said that the blower should operate continuously (at least during the daytime) whenever the outside temperature is below about 45°. If air which feels warm is to come from the registers on a 45° day with the circulating blower operating continuously, then the temperature of the register-air must be fairly high for zero days—it cannot be as low as 120° or 130°, for example.

For Higher Register Air

One good method of making certain that air which is really warm will come from the supply registers during moderately cold weather is to design for unusually high-temperature air for the coldest days. This was done in handling the problem indicated by Diag. 2. One entire side of this room is glass, being made up of two large picture-windows separated by a glass door. To insure comfort for occupants sitting within four or five feet of the windows, continuous blower operation certainly is needed here for days cooler than 45°. Still, as usually is the case, there was need to make certain that low-temperature air, which would cause complaints about cold drafts, would never come from the registers. The problem was solved by aiming for a temperature of 175°, at the registers, for coldest weather, and by figuring the heat losses really close. To avoid the penalty of high oil bills as the result of using a proper-size instead of an oversize heating plant, a large furnace which would give a low stack temperature was installed. The ducts, however, are much smaller than would be used with a lower design temperature for the delivered air. The cfm of the blower and the gph rate of the oilburner are about half of would be usual practice for many contractors and engineers who figure such systems. In a recent talk on proper balance of cfm, gph rate, and heat losses, a good authority on forced-air heating declared that the correct flame size is the one that causes the oilburner to operate continuously when heating the house on the coldest day. Perhaps he was trying to induce oilburner service men to cut their fire sizes greatly, and this certainly is in the proper direction for modern furnace systems. However, this all-out viewpoint was not taken for the heating plant related to Diag. 2. Instead; the aim was to use a firing rate so low that the burner would operate a total of 17 to 18 hours on the coldest day.

Balancing Air System

This same aim can be used in balancing almost any forced circulation system. First, aim to use such a low firing rate that the oilburner will operate for many, not few, hours on the coldest day. As your second step, run the circulating blower so slowly that on the coldest days air which is really warm, perhaps at a minimum of 150°, comes from the supply registers. After you slow down a blower you may, of course, have to adjust duct dampers, or block the warm air registers in the way described in the first part of this article, to arrive at proper distribution of warm air to the different rooms. The third step is to set the blower control so low that the blower tends to operate continuously on any days when important amounts of heat are needed.



Register air temperature *recorded on the instrument is compared with an on-off card for the same period.*

Following these steps tunes the entire installation to carry the actual heating load of the building, and avoids the error of having the gph rate and cfm of the blower greatly above what actually is needed for the particular building.

Crude Price Up to $1.95; Heating Oils Get Increase

CRUDE OIL PRICES were increased 25 cents a barrel early in March to bring the average price up to $1.95. This is a step that has long been predicted with $2.00 a barrel the most often mentioned price. It is believed that the price increase will stimulate wildcatting and encourage generally the search for oil which has slowed due to the increased cost of discovery and drilling.

Standard Oil (Indiana) posted a 25-cent increase in the price it would pay for crude on March 10, and by three days later in most markets in the Middle West heating oils had increased about a half cent a gallon. Standard of California announced increases in prices paid for crude oils and raised heating oils 7/10 on March 19, and other West Coast majors followed. Most eastern oil companies raised light oils also raised distillate and kerosene prices 7/10 on March 20, and increased residual prices 20 cents a barrel. Dealer margins were not increased.

January Building Up

MORE PERMANENT HOMES and apartments were completed in January 1947 than in any other month since the end of the war, Housing Expediter Frank R. Creedon has announced.

Total of the new permanent units completed was 59,300. This figure does not include completion of 6,000 conversions, 5,000 trailers, 26,600 accommodations built under the Government's temporary re-use housing program, or 1,800 temporary accommodations built by other public bodies and educational institutions.

New permanent homes started in January totaled 42,100. In addition, during January 2,500 conversions were started as well as 5,000 trailers, 3,300 temporaries under the re-use program, and 700 temporary accommodations by other public bodies and educational institutions.

Cooperating For The Future

Crude Abundant, But Mounting Fueloil Demand Taxes Facilities

by

J. W. Connolly*

OILHEATING HAS BECOME big business—big business of a typically American type, for it is composed of a number of small enterprises whose combined efforts have been directed toward providing an essential service to the American people. I think it is because your efforts have been a genuine public service, so that people have learned to rely on you and trust you, that your business has grown to its present size and vigor.

Furthermore, because Mr. and Mrs. American Citizen have learned to depend on the oilheating industry, there is little doubt that your business will continue to grow, and that you can expect an increasing market for more units, more service, and more oil.

All of us are interested in the question of future oil supplies. The members of the oilheating industry want to know how far they can expand, how many more burners they may install, and if they can continue to promise their customers that fuel will be available.

Fairly detailed estimates have been made of the problem of oil supply and oil demand for the next several years, and, in my company we feel that there will be fuel to meet your needs.

But meeting these requirements will call for the fullest cooperation of every segment of the burner and oil industries. The demand for petroleum fuels is now at an all-time high, and, although we can say that there will be plenty of oil for all users, oil cannot be pumped from the wells directly into the consumers' tanks. Petroleum geologists have conservatively estimated that there is plenty of oil in the ground and yet to be discovered. We will have oil for generations to come, but there is a tremendous gap between finding oil in the earth and pumping heating oil into a customer's tank. Wells must be drilled, the crude oil must be pumped from the ground, transported by pipe lines and tankers to a refinery, refined and then shipped to the distributor for further transportation to the ultimate user.

The industry is doing all in its power to bridge this gap as rapidly as possible. We are building new refineries, laying new pipe lines, developing new crude resources, but it will be two or three years before the full results of present expansion will be felt in the market.

The short term demand for oil products will be somewhat hard to meet. Immediate demand has grown faster than post-war facilities, and while the oil industry should be able to supply the amount of refined products which it will be called upon to furnish, the job will call for the cooperation of every person in the industry.

Need Accurate Estimates

Our customers have been told that they can depend on us, and we should be prepared to assume this responsibility. To do this, we must all work together to get the most from what we have. Demand estimates must be as accurate as possible, for there is very little excess refining capacity to take care of unforeseen emergencies. Storage cannot stand idle during the summer. If tanks are not filled to capacity when oil is available to fill them, it may be difficult later to meet demand from current production. Inventories must be maintained at high levels, and seasonal carry-overs must be regarded as insurance.

Heating oils were at one time almost a step-child of the oil industry, and were important chiefly as a means of smoothing out refining fluctuations caused by seasonal changes in gasoline demand. Not so long ago the peak demand for petroleum products came during the summer months and was caused by pleasure driving and tourist traffic.

Heating oil production was important to keep refineries and their workers busy during the winter months.

A few years before the war the increased importance of heating oils resulted in peak over-all domestic demands for petroleum products in the middle of winter instead of in the July to September period. This trend continued through the war and into the post-war years. It is probably safe to say that even higher winter demands in relation to summer requirements may be expected in the future.

My company does not look upon your heating oil requirements as a matter of secondary importance, and I believe this view is general in the industry. Your needs occupy a very vital position in all our estimates for future production, future refining capacity, and future demand.

Let us consider this future demand, and then we can take up future heating oil requirements as part of the complete picture. In the next year or two we expect demand to continue its upward trend from the record high levels of last year. According to our estimates, total U. S. demands of all petroleum products for 1947, including exports, will be about five million five hundred thousand barrels daily, an increase of three and one-half per cent over 1946, and 26 per cent over 1941, the last pre-war year.

Demand to Continue Up

For several years after 1947 there should be a continuous increase in over-all demand for petroleum products.

Those figures are for finished petroleum requirements as a whole, and include heating oil together with gasoline, lubricating oil, and other petroleum products. They are the type of figures used in calculating how much crude oil it will be necessary to produce, and while they are generally interesting, separate product breakdowns, especially as they apply to heating oils, are more important to you.

One of the unexpected post-war developments has been the sky-rocketing demand for kerosene, including range oil and #1 Heating Oil sold as range oil. Domestic consumption of this product

(Continued on page 110)

*Head of Marketing Counsel Department, Standard Oil Co. (N.J.). This is a paper presented to OHI Convention at Atlantic City.

Competitive Fuel Prices

Though Fueloil Prices Are Up, Coal is Up More; Gas Averages High

by

A. J. McIntosh*

PRICES OF COMPETING FUELS have caused changes over the last three decades and at the same time have reflected the changes in the consuming habits of the people of the United States. Prior to World War II there was an almost constant increase in the relative importance of fueloil and gas used for fuel while the importance of both bituminous and anthracite coal decreased. During this same prewar period coal prices increased to a much greater extent than oil prices and in fact during many of the years oil prices declined and, in most cases, are now no higher than they were back in 1925-26. During the war, of course, the natural economic trends were entirely upset because of the tremendous requirements of petroleum for the direct use of the Army and Navy and under such conditions many industrial plants were converted to the use of coal and the new installations in home heating and industrial plants of all kinds which would use oil were practically eliminated. Petroleum prices were rigidly controlled by OPA which was not the case for the prices of coal which were increased several times during the war.

In order to study what has been taking place in the past and to develop a better method of evaluating the price competitiveness of various fuels, we show in this paper several tables of data and a discussion of the method of developing tables which will give fairly satisfactory answers to relative worth of competing fuels under the varying conditions known to exist.

The overall statement as to the relative worth of fuels is not particularly useful even if it were possible to make such a statement. What is needed is a method of determining in broad areas or in specific instances the real competitive worth of the various fuels. It is further essential to limit the comparisons to a certain type of installation and, therefore, we believe that comparisons should be divided as follows: (1) home heating, (2) office buildings, apartment houses, stores, etc., (3) manufacturing plants, (4) central power plants, (5) railroads, (6) vessels. At first we thought some more inclusive comparisons would be possible but there are so many variables even between these classifications of users that we do not think that anything informative could be arrived at by combining them.

In all of these comparisons we have shown the various fuels involved as they relate to the particular kinds of users. These feuls that we have compared are: (1) #2 heating oil, (2) residual fueloil, (3) natural gas, (4) mixed gas, (5) manufactured gas, (6) anthracite coal and (7) bituminous coal. Not all of these apply to all kinds of users so that the comparisons in some cases are much simpler than would appear at first. We have not included wood which is an important fuel in some places because it is difficult to obtain price data and because of the fact a great deal of the wood is provided by the user and not purchased.

Table #1 shows for the last few years changes in the prices of bituminous coal and shows index numbers using 1940 as a base called 100. By reference to the table it can be seen that since 1940 bituminous coal has increased 81% at the mine, or an increase of $1.55 a ton. A similar dollars and cents increase was reflected in the price of bituminous coal at destinations at the wholesale level but because of the inclusion of a more or less fixed transportation charge, the overall increase only amounted to 37%. At the retail level, however, prices increased more than they did at the mine, being $2.35 a ton but again the percentage increase was smaller, at 27%.

TABLE #1
Bituminous Coal Prices

1940=100
($ per ton)

Year	Mine Prices $	Mine Prices Index	Price at Destination (Wholesale) $	Price at Destination (Wholesale) Index	Retail Price (31 Cities) $	Retail Price (31 Cities) Index	Margins Wholesale vs. Mine	Margins Retail vs. Wholesale
1940	1.91	100	4.40	100	8.60	100	$2.49	$4.20
1941	2.19	115	4.75	108	9.10	106	2.56	4.35
1945	3.06	160	5.63	128	10.49	122	2.55	4.87
1946	3.46*	181	6.02	137	10.95	127	2.56	4.93

* Preliminary figure.

TABLE #2
Anthracite Coal Prices

1940=100
($ per ton)

Year	Mine Prices $	Mine Prices Index	Price at Destination (Wholesale) $	Price at Destination (Wholesale) Index	Retail Price (18 Cities) $	Retail Price (18 Cities) Index	Margins Wholesale vs. Mine	Margins Retail vs. Wholesale
1940	4.98	100	9.04	100	10.69	100	$4.06	$2.65
1941	5.42	109	9.48	105	11.31	106	4.06	1.83
1945	7.68*	154	11.34	125	13.73	129	3.66	2.39
1946	8.95*	180	12.48	138	15.28	143	3.53	2.80

* Partially estimated.

TABLE #3
Residual Fueloil Prices

1940=100
(cents per gal.)

Year	Avg. U. S. Refinery ¢	Avg. U. S. Refinery Index	Gulf Coast Refinery ¢	Gulf Coast Refinery Index	N. Y. Harbor ¢	N. Y. Harbor Index	Margin N. Y. Whlse. vs. Gulf Refy.	Phila. ¢	Phila. Index	Margin Phila. Whlse. vs. Gulf Refy.
1940	1.93	100	2.00	100	3.10	100	1.10¢	2.86	100	0.86¢
1941	2.18	113	1.97	98	3.12	101	1.15	3.11	109	1.14
1945	2.82	146	2.31	115	4.03	130	1.72	4.03	141	1.72
1946	3.26	169	2.90	145	4.19	135	1.29	4.19	146	1.29

*Economist, Socony-Vacuum Oil Co., Inc.

1940=100
(cents per gal.)

TABLE #4

#2 Heating Oil Prices

Year	Avg. U. S. Refinery ¢	Index	Gulf Refinery ¢	Index	N. Y. Harbor (Wholesale) ¢	Index	25/34 Cities (Retail) ¢	Index	Margin N. Y. Whlse. vs. Gulf Refy.	Margin Retail vs. Avg. U. S. Refinery
1940	3.74	100	3.58	100	4.74	100	6.88	100	1.16¢	3.14¢
1941	3.75	100	3.42	96	4.84	102	7.11	103	1.42	3.36
1945	4.33	116	3.75	105	6.24	132	8.17	119	2.49	3.84
1946	4.76	127	4.40	123	7.34	155	8.28	120	2.94	3.52

For anthracite coal we have shown approximately the same kind of data but in this case the increase at the mine was very substantial, being almost $4.00 a ton from 1940 but the percentage increase is about the same as it was for bituminous, being 80%. Most of the mine price increases for anthracite were reflected in the wholesale price at destination but the retail price increased to a greater extent and shows an increase over 1940 of 43%. These facts are all shown in Table #2.

During the war the price that the consumers paid for oil included a special charge authorized by the government which in effect reimbursed the government for the large extra transportation costs in moving petroleum into the East Coast area and some other parts of the country by means of transportation systems not normally employed in peacetime. Tankers are the general means of supplying the East Coast from the Gulf Coast but during the war many of these tankers were employed in other services or were lost by enemy action and it became necessary to use inland pipe lines, tank cars, and in extreme cases even box cars. All of these methods of transportation were more costly than the old tankers and as long as the government underwrote the primary part of the cost of this extra transportation, it required the petroleum industry to charge the customers a price large enough to cover these extra costs. The petroleum industry itself did not benefit by this larger price because it turned these amounts over to the government. After the war was over in 1945 and industry could revert to normal methods of transportation, prices were adjusted downwards to eliminate the charge to cover the wartime transportation costs. The prices shown in Table #3 for 1945 are, nevertheless, the total prices paid by consumers because those are the prices that they would have been comparing during that period.

The price of residual fueloil at the refinery, which is comparable to coal at the mine, increased only 69% from 1940 and in the most important market at the Gulf Coast the increase was only 45%. In New York harbor and Philadelphia similar increases ran to 35% and 46% respectively. Unlike coal, the transportation cost of oil increased considerably since before the war and, therefore, it is natural to expect the margin between the price at the Gulf and either New York or Philadelphia to show increases from the prewar period. Again we must remark that the margin during the war year 1945 was not a true margin because it included in it the extra abnormal cost of transportation.

In 1940 the wholesale price of bituminous coal paid by industrial users was about $4.40 at the average destination. Residual fueloil at that time was selling at about $1.30 a barrel in New York harbor. As a result of comparing the heating value of these fuels and their efficiency in use in industrial installations, it can be calculated that the real worth of coal at that time was equivalent to oil at about $1.25 a barrel so that it can be said that the New York harbor price of residual fueloil in 1940 was close to the overall parity price. In December, 1946 we were able to obtain the actual industrial price of bituminous coal in New York City which prices varied from $7.76 to $8.15 a ton. This works out to the equivalent of $2.05 to $2.12 a barrel of residual fueloil. In December, however, the actual price was $1.92. We, therefore, conclude that on a cash basis oil was cheaper than bituminous coal to the extent of 13 to 20 cents a barrel in December.

In developing good comparisons for the other large domestic heating oil market it was necessary to have data on heating oil prices which are shown in Table #4. The Bureau of Labor Statistics publishes prices for a large number of cities and we have weighted these prices by the consumption in the various areas and show in this table these average weighted #2 heating oil prices which we think are comparable to the 50 city average price for gasoline. This series of prices we believe has been long wanting in the petroleum industry.

When you consider that the anthracite coal prices at retail have increased 43% since 1940 and that a comparable increase for #2 heating oil was only 20%, it can immediately be seen that oil has gained a tremendous price advantage over the last six years as compared to anthracite coal. Taking the overall anthracite coal price (avg. 3 grades) as $10.69 back in 1940, from our analysis we find that this would be comparable to 7.2¢ a gallon for fueloil when used in a burner designed for oil and 6.2¢ a gallon in a converted burner. The actual price of distillate fueloil was 6.9¢ so that it might be said that most of the burners using fueloil at that time were using it at a cash disadvantage of 0.7¢ a gallon. By 1946 comparable calculations indicate that such users have an advantage of 0.6¢ a gallon. For the 17 East Coast cities which comprise the largest

TABLE #5

Relative Efficiencies Used in Comparable Oil, Gas & Coal Prices

Shown in Percentage of Total BTU Content

Fuel and How Used	Home Heating	Com'l Bldgs. Apts. & Hotels	Manufact. Plants	Central Power Plants	Railroad Fuels	Ship Bunkers
#2 HEATING OIL						
Designed Burners	75%	75%	80%	..	..	..
Converted Burner	65	70	..	..	..	..
#5 FUELOIL						
Designed Burner	..	75	80	..	..	..
Converted Burner	..	70	..	..	..	..
#6 FUELOIL						
Designed Burner	..	75	80	85	80	85
Converted Burner	..	70	..	..	..	..
GAS	78	78*	80	..	..	..
ANTHRACITE COAL						
With Controls	70	70	75	..	..	..
No Controls	60	60	..	..	..	..
BITUMINOUS COAL						
With Controls	65	65	70	85	{51-Frt. 64-Pass.	61
No Controls	55	60	..	..		..

anthracite consumption area the saving obtained by using oil was 0.4¢ per gallon. These significant changes over the last six years contain great implications for the oil industry and, at the same time for the coal industry. There is no question now that in practically every location home heating can be done cheaper by oil than it can be done by anthracite coal. It is natural, therefore, to expect that the demand for home burners in the future will be great and that the anthracite industry will not share in the market for new homes built to the extent it did in the past. It may also lose some of its present users as changes have to be made or as individuals find it possible to convert to oil. The calculations clearly indicate that if a conversion is made the user can save money currently on his fuel costs.

For those who desire to expand the idea of making tables to show the comparative fuel costs, we attach our Tables #5 and #6 which show many of the factors which have to be preliminary to the mathematical calculations which are not difficult. Table #5 shows the relative efficiency or the percentage of Btu's that are transformed into useful heat in the various kinds of installations according to the previously mentioned six classifications of users. These percentages were developed after careful inquiry from a great many sources. We received the help of many in the industry and in allied industries and have reviewed much of the literature which has been written on this subject. We believe that they are fairly accurate in reflecting what these efficiencies might be. The only real criticism that we have had on them is that several people have said they thought the efficiencies were slightly high. If this were the only criticism it would not make any great difference because if they are all too high or all too low that would not change the relative values of one fuel against the other. What we should be particularly concerned about is the relationship between the fuels and not their actual level.

In connection with Table #6 which shows the Btu values of the various fuels, we spent more time on this particular subject as related to coal and gas than we did on any other subject. The reason is that there are so many different kinds of coal and so many different opinions as to their actual Btu content that we had to try to get at what caused these differences before we could make our calculations. We believe that the figures shown in the table are fairly sound and although the Btu value of anthracite coal is shown at less than the average for bituminous, and this statement differs from many others found in print, we still believe that that is the case. If the actual Btu values of coal are known, of course those should be employed in the calculations.

When it comes to gas, general figures are all right and we have indicated the general averages in the table but it is so easy to get the actual figures for any town that this most likely should be done. We have calculated the actual gas cost per 1000 cubic feet in a great many towns in the United States and in doing this it is quite necessary to study each of the town's schedules of prices to determine just exactly what the average rate is for that portion of the gas used for heating. This is quite a laborious job and yet it is necessary if one is to get the facts.

It will be noted in referring to Table #5 again that we have shown under coal two sub-headings: (1) with controls and (2) no controls. What we mean by controls is a stoker or any number of regulators or instruments which increase the efficiency of the coal used. The meaning of no controls would indicate a simple type coal burner hand fired with maybe nothing on it more or less than a pressure draft regulator. The controlled categories might include many hand fired installations with any combination of other controls, as mentioned before. It will be noted that in the case of the efficiency that the spread between the fuels and types of in-

(Continued on page 118)

TABLE #6

BTU Content of Fuels

Kind of Fuel	*Avg. API Gravity*	*Average Btu Content Per Gallon*	*Change in Btu Content Per Degree API Gravity*
PETROLEUM			
#2 Heating Oil	33°	140,000*	±630 = 0.5%
#5 Fueloil	21°	147,000*	±600 = 0.4%
#6 Fueloil (Residual)	13°	152,000*	±500 = 0.3%

	Classification	*Average Btu Content Per Pound*	*Btu Range*
COAL			
Bituminous	East. High Vol.	13,300	
"	East. Low Vol.	13,900	
"	West. High Vol.	11,300	
"	Avg. All Bituminous	13,500*	10,000-14,500
Anthracite	Avg. All Anthracite	13,000*	11,500-14,000

	Average Btu Content Per Cubic Ft.	*Btu Range*
GAS		
Manufactured	540*	500- 599
Mixed	800*	600- 949
Natural	1,100*	950-1,100

* To be used unless exact Btu content is known.

TABLE #7

Equivalent #2 Heating Oil Values

For 18 Eastern Cities

Which Are Based Upon Gulf Coast

Year 1946

(Prices Weighted)	*Actual Price*	*Equivalent Oil Prices*	*Actual Oil Price*	*Savings or loss When Using Oil in a Converted Burner*
Anthracite Coal (17 Cities)				
Stove & Chestnut Only	$16.34 ton	9.5¢ gal.	8.5¢ gal.	+1.0¢ gal.
Stove, Chestnut & Pea	16.00 "	9.4¢ "	8.5¢ "	+0.9¢ "
Bituminous Coal (4 Cities)	10.47 "	6.4¢ "	8.4¢ "	—2.0¢ "
Gas (18 Cities)	...	12.0¢ "	9.2¢ "	+2.8¢ "
(Prices not weighted—by either area or use)				
Anthracite Coal (17 Cities)				
Stove & Chestnut Only	$17.08 ton	10.0¢ gal.	8.5¢ gal.	+1.5¢ gal.
Stove, Chestnut & Pea	15.28 "	8.9¢ "	8.5¢ "	+0.4¢ "

many years of satisfactory service with "DETROIT" CRC-239 FLOAT VALVES

DETROIT CRC-239 Float Valves have a long record of satisfactory service on every type of oil heater using a vaporizing type burner. They have a wide reputation for providing dependable control under the most difficult conditions.

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New Fueloil Specifications Reach Tentative Agreement

AGREEMENT ON specifications for fuel oils to be used in the next few years was reached by a group of 17 burner and oil men at Atlantic City on March 27, the day following the OHI Convention. These men met as Section 3 of Technical Committee E, Section D2, American Society for Testing Materials, under the chairmanship of K. E. DeRosay of Sun Oil Co., pinch hitting for J. L. Minner of Shell who was unable to be present.

After the agreement has been cleared by Committee E and finally by A.S.T.M. headquarters, the specifications will be circulated throughout the industry by the National Bureau of Standards. Then if 65% of the industry, by volume, agrees to the specifications, they will become a new Commercial Standard, displacing CS12-40.

The adopted specification for No. 1 fueloil is as follows:

API Gravity	33° Minimum
Flash Point	100° Minimum, or Legal
Pour Point	0° F.
Carbon Residue on 10% (Ramsbottom)	0.10
Distillation Range	
10% Point	420°F. Maximum
End Point	625°F. Maximum
Viscosity	
Saybolt Kinematic	1.4 to 2.2 Centistokes @ 100°F.
Corrosion—copper test, 3 hrs. @ 122°	Pass
Sediment & Water	Trace

A proposed new No. 2 fueloil will take the place of former Numbers 2 and 3, and also the Pacific Coast's PS-200. The specifications tentatively adopted were:

API Gravity	26° Minimum
Flash Point	100° or Legal Minimum
Pour Point	20° F.
Carbon Residue on 10% (Ramsbottom)	0.35
Distillation Range	
10% Point	460°F. Max.**
90% Point	675°F. Maximum
Viscosity	
Saybolt Universal	40 sec. @ 100°F.
Bottoms, sediment and water	0.10% Maximum

**May be changed to 440° for burners other than atomizing types.

There was a slight change in the specifications for the new No. 5A fueloil, from those tentatively agreed upon at earlier meetings. The Minimum Viscosity, Saybolt Universal, is changed from 50 to 45 seconds, and the word "residual" has been left out of the definitions.

The burner and oil men present at the meeting, in addition to DeRosay, were M. A. Powers and Ed Haugen of Timken, Frank Faust of General Electric, A. T. Atwill of Quaker, G. W. Bohn of Preferred Utilities, Dean Olds of Coleman, Norman Thompson of Sun Oil, Stewart Hulse of Standard Oil Development, Harry M. Hancock of Atlantic Refining, R. J. Bender of Sinclair, Stephen Cauley and Dr. L. P. Beard of Socony-Vacuum, W. A. Sullivan of Shell, and J. R. Calloway of the Texas Co. Also in attendance, and active in negotiations, were Herb Witte of Underwriters Laboratories and Guy S. Gale of the National Bureau of Standards, Washington, D. C.

Wilson Predicts Fifth of Homes Will Use Oil for Central Heat

TWENTY PER CENT of centrally heated one- and two-family homes in the country will use oil by 1970, it was predicted by Robert E. Wilson and J. K. Roberts, chairman of the board and manager of research, respectively, of the Standard Oil Company (Indiana) in a paper before the World Conference on Mineral Resources, March 19, at New York. They estimated that the use of oilburners would double the 1940 figure by 1950, and almost treble by 1970, in which year there will be an estimated demand for 2,600,000,000 barrels of crude oil or its equivalent—56% more than the 1945 demand.

The outlook for domestic crude oil is less bright, according to Mr. Wilson and Mr. Roberts, but there will probably be plenty of substitutes to take the place of natural crude. The report continues:

"While many new discoveries will unquestionably supplement the 24 billion barrels of our present proved reserves, the more easily found oil has been discovered, and that which is left is becoming harder to find—even with the new exploring instruments. The amount of oil discovered per wildcat well is averaging only about half what it did ten years ago. With the higher drilling costs, the greater depths required, and the increasing inaccessibility of location, the cost of finding new reserves is about six times what it was a decade ago.

"One method of supplementing American discoveries will be imports. We can hardly expect to go on indefinitely producing 65 per cent of the world's oil from 30 to 35 per cent of the world's proved reserves, or 15 per cent of the favorable land area. Exports are bound to decrease and imports to increase as time goes on. However we must not allow imports to come in on a basis which will discourage the continued search for new reserves or the development of substitute fuels. We must have a strong, vital industry, with the bulk of its reserves within our sphere of influence. This means first, continuing to build up our reserves, making up any shortages by using those which American ingenuity has discovered elsewhere; and second, development of synthetic processes. Both of these important objectives can be reached only if our industry, and research generally, is left free to develop and reap the rewards to which its enterprise entitles it.

"The most promising of the synthetic process is a modification of the Fischer-Tropsch process. It makes gasoline and other liquid fuels from natural gas, by partially oxidizing the gas to hydrogen and carbon monoxide and then reacting them in the presence of a catalyst. Two 6,000-barrel per day plants are being built, one by Standard of Indiana, in the Hugoton, Kansas, field, and one by Carthage Hydrocol, Inc., near Brownsville, Texas. The gasoline produced will have 80 octane number, before addition of tetraethyl lead. For each 6,000 barrels of gasoline, about 1,000 barrels of distillate fuels and 1,000 barrels of oxygenated compounds useful as chemicals will be produced. (*Cont. page 70*)

• PEOPLE ARE GETTING CHOOSY AGAIN

YESTERDAY, people bought anything . . . today it's not quite so easy . . . tomorrow you will have to *sell* them, and sell them hard! Tomorrow when people refuse to buy just *a* oil burner, dealers who sell Silent Glow with its marvelous Air-Seel feature will find the way vastly smoother. All important will be Silent Glow's *tried and proven* reputation, established nearly a quarter century ago. The Silent Glow Oil Burner Corporation, Hartford 6, Conn.

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fueloil & oil heat

"Known natural gas reserves would supply all our gasoline requirements for about 12 years, but will of course not be used entirely for this purpose. For an additional 3¢ to 4¢ per gallon, however, gasoline can be made from coal, by a modification of the same process; and the U. S. coal reserves are adequate for a thousand years. Gasoline from coal is expected to enter the picture ahead of gasoline from oil shale or tar sands, (except possibly for local needs in limited areas) and is expected to become a factor by 1970—earlier if such processes as underground gasification of the coal substantially reduce the costs. Motor fuels from farm products are too expensive to be seriously considered, and with the perfecting of the gasoline-from-coal process are not necessary for the national defense."

Proved Crude Oil Reserves Increase 5% in Last Year

PROVED RESERVES of crude oil in the United States increased 5% in 1946 to a total of 20,873,560,000 barrels, according to an estimate by the American Petroleum Institute's Committee on Petroleum Reserves. In addition there also were 3,321,027,000 barrels of condensate and natural gas liquids, part of which has been included in former estimates of oil reserves. On the same estimating basis which showed proved oil reserves at close to 21 billion barrels a year ago, the reserves now stand at 24,194,587,000 barrels.

Total proved reserves of crude oil (exclusive of 884,967,000 barrels of condensate) on December 31, 1945, were 19,941,846,000 barrels. Last year revisions of previous estimates added 1,254,705,000 barrels and extensions of old pools added 1,158,923,000 barrels more. New reserves in new pools discovered in 1946 added 244,434,000 barrels, making total additions for the year 2,658,062,000 bbls. Subtracting crude production of 1,726,348,000 bbls. in 1946, total crude reserves in sight at the end of the year were 20,873,560,000 bbls., an increase of 931,714,000 bbls. In addition to these proved reserves of crude, API estimates condensate reserves at 1,050,794,000 bbls. at the end of 1946, and reserves of other natural gas liquids (natural gasoline and liquified petroleum gases) at 2,270,233,000 bbls.

Proved natural gas reserves of 160.6 trillion cubic feet at the end of the year included an increase of 12.8 trillion feet in the estimates in 1946. Estimated net production of natural gas last year was 4.9 trillion cubic feet after deducting gas returned to reservoirs.

Commenting on the revisions in the estimates to show natural gas liquids apart from crude oil, the committee explains:

"In 1945, the directors of the American Gas Association authorized the formation of a 'Committee on Natural Gas Reserves' to prepare estimates of U. S. proved reserves of natural gas and its derived liquids in the United States. Arrangements were made for cooperation between the A.P.I. Committee on Petroleum Reserves and the A.G.A. Committee on Natural Gas Reserves whereby (1) the whole field of proved hydrocarbon reserves would be covered, and (2) there would be no duplication of effort.

"The first report of the A.G.A. Committee was submitted and published in October 1946. It covered only proved reserves of natural gas in the United States as of December 31, 1945. It did not cover estimates of reserves of the natural gas liquids. However, in its second report, the A.G.A. Committee includes estimates both of natural gas and of natural gas liquids, and these estimates are for reserves as of December 31, 1946.

"In past years your committee has included in its estimates not only reserves of crude oil but also certain condensate reserves. Because of the growing importance of condensate reserves and production resulting in greatly increased work in their yearly estimation, such work was taken over by a separate group, the

(*Continued on page 142*)

SUMMARY OF COMMITTEE'S ANNUAL REPORTS COVERING PERIOD 1937-1946

(Barrels of 42 U. S. Gallons)

Year	NEW OIL BLOCKED OUT DURING YEAR: Through Revisions of Previous Estimates and Extensions to Known Fields	NEW OIL BLOCKED OUT DURING YEAR: Through New Pools Discovered During Year	NEW OIL BLOCKED OUT DURING YEAR: Total Through New Discoveries, Extensions and Revisions	Production During Year	Estimated Proved Reserves as of End of Year	Increase Over Previous Year
1936	.....	.....	.....	.....	13,063,400,000	—
1937	2,792,790,000	928,742,000	3,721,532,000	1,277,664,000	15,507,268,000	2,443,868,000
1938	2,243,571,000	810,493,000	3,054,064,000	1,213,186,000	17,348,146,000	1,840,878,000
1939	2,058,455,000	340,667,000	2,399,122,000	1,264,256,000	18,483,012,000	1,134,866,000
1940	1,607,012,000	286,338,000	1,893,350,000	1,351,847,000	19,024,515,000	541,503,000
1941	1,538,989,000	429,974,000	1,968,963,000	1,404,182,000	19,589,296,000	564,781,000
1942	1,618,925,000	260,051,000	1,878,976,000	1,385,479,000	20,082,793,000	493,497,000
1943	1,202,368,000	282,418,000	1,484,786,000	1,503,427,000	20,064,152,000	(—) 18,641,000
1944	1,556,192,000	511,308,000	2,067,500,000	1,678,421,000	20,453,231,000	389,079,000
1945	1,690,315,000	419,984,000	2,110,299,000	1,736,717,000	20,826,813,000	373,582,000
December 31, 1945 Estimated Proved Reserves of Crude Oil only (see note below and text)					19,941,846,000	
1946	2,413,628,000	244,434,000	2,658,062,000	1,726,348,000	20,873,560,000	931,714,000

NOTE: Up to and including its figures on Proved Reserves of Petroleum as of December 31, 1945, the Committee combined under that heading the estimated proved reserves of cycle plant and lease condensate. As of December 31, 1945 the reserves so included totaled 884,967,000 barrels and as of December 31, 1944 there were 668,701,000 barrels included. Beginning with this report the figures in this table are for crude oil only. If comparison is made between new oil reported in 1946 with new oil reported in earlier years, it should be remembered that the 1946 figures for new oil do not include new condensate which is estimated to be approximately 205,000,000 barrels.

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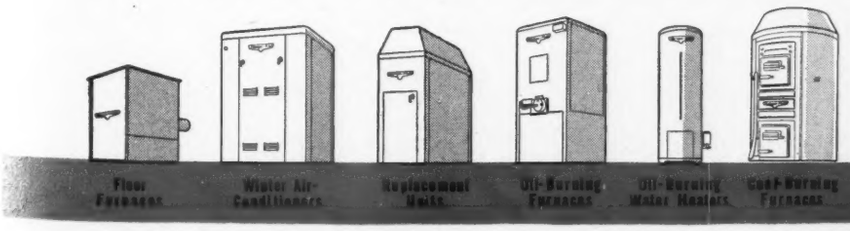

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Domestic Fueloil Rations for New England, by Counties

In the February issue was a compilation of fueloil rations issued during the last war year, shown by OPA districts and regions. The Department of the Interior has now released a breakdown by individual boards for all of the New England states. Next month they expect to have ready those for the Middle Atlantic area, with the others coming later.

There were some 720 boards in New England making it impractical to list them here individually, due to space limitations, so they have been grouped into counties in the table below. If any dealer wishes to know the figures for some individual board in his community, he can get the information by writing to the magazine. If he wants figures on several boards, the magazine will have the appropriate sheets photostatted at a cost of 75¢ a sheet. To avoid bookkeeping, send cash with the order. The whole New England series consists of 24 sheets.

The figures that were given in the February issue, i.e., the district and regional totals were more nearly complete than are those from the boards. In the former the period covered was from June 1, 1944 to May 31, 1945, a full year. In the reports from the boards (the present table) the period covered is from June 1 to November 30, 1944. Obviously, this was most of the rations, since people who had not had their ration by that date were the very few who subsequently moved or were away from home.

Only the domestic heating rations are shown in the table, those identified by Form R-1100, separated to central heating and space heating. As was explained in detail in the February issue, a lot of burners have been installed in these areas since the ration date. To bring the figures up to a point of January 1, 1947, add about 33.2%.

The actual number of distillate oilburners operating in any county is somewhat above these figures, because often a typical domestic type burner is installed in a small store or perhaps a four-family flat, and it will be recalled that rations for such buildings were issued as R-1101, rather than the private dwelling ration.

◈

Burt E. Hull, who has been president of The Texas Pipe Line Co., a wholly-owned subsidiary of The Texas Co., for 21 years, has resigned upon his election as a vice president of The Texas Co. He will be given a leave of absence to serve as president of Trans-Arabian Pipe Line Co., to supervise construction of a 1,050 mile oil pipe-line from eastern Saudi Arabia to the Mediterranean. *Ralph B. McLaughlin,* who has been vice president and manager of The Texas Pipe Line Co., succeeds Mr. Hull as its president.

Domestic Fueloil Rations by Counties

NEW ENGLAND

	R-1100 Central		R-1100 Space	
	Number Issued	*Average Gallons*	*Number Issued*	*Average Gallons*
MAINE				
Androscoggin	2,111	1946.9	7,528	644.9
Aroostook	439	1811.5	2,621	629.2
Cumberland	6,005	1707.6	19,756	597.9
Franklin	232	1900.7	911	552.9
Hancock	584	1716.2	2,076	619.7
Kennebec	2,156	1662.1	8,257	642.8
Knox	562	2660.4	2,464	663.1
Lincoln	420	1636.3	2,157	634.0
Oxford	512	1685.3	2,713	616.8
MAINE TOTAL	13,021	1784.1	48,483	641.2
MASSACHUSETTS				
Berkshire	3,026	1739.8	19,434	241.0
Barnstable	200	1253.7	516	521.7
Dukes	211	1349.6	667	927.7
Essex	18,168	1582.7	65,392	536.7
Franklin	121	1431.2	519	539.7
Hampden	13,333	1614.5	36,512	484.0
Hampshire	310	1897.0	1,679	706.2
Middlesex	36,349	1217.3	85,970	519.4
Nantucket	95	1119.3	396	485.2
Norfolk	6,224	1360.3	9,747	581.5
Plymouth	8,453	1505.4	27,912	570.3
Worcester	13,873	1624.8	58,357	641.8
MASSACHUSETTS TOTAL	100,363	1444.0	307,101	533.0
NEW HAMPSHIRE				
Belknap	832	1798.0	3,133	579.3
Carroll	398	1746.0	1,426	579.2
Cheshire	1,475	1510.0	3,691	553.7
Coos	683	1466.9	3,337	550.4
Grafton	1,099	1831.4	4,732	544.9
Hillsboro	6,417	1707.1	19,716	633.3
Merrimack	1,617	1697.0	5,155	606.4
Rockingham	2,649	1651.3	9,574	602.9
Strafford	2,024	1408.0	9,466	545.4
Sullivan	727	1538.7	3,752	565.5
NEW HAMPSHIRE TOTAL	17,921	1644.7	63,982	590.3
VERMONT				
Addison	226	1772.2	1,089	504.8
Caledonia	415	1781.2	2,053	542.0
Chittenden	1,673	1780.3	5,338	633.4
Essex	48	1617.3	349	575.7
Franklin	514	1765.0	2,236	522.4
Grand Isle	24	1551.7	384	517.0
Lamoille	95	1504.2	533	507.3
Orange	211	1742.1	1,108	415.6
Orleans	181	1872.8	866	450.7
Rutland	991	2014.1	4,293	571.7
Washington	1,051	1970.4	3,326	495.3
Windham	1,014	1797.7	5,784	528.0
Windsor	921	1798.1	4,377	614.4
VERMONT TOTAL	7,364	1838.0	31,736	522.4
CONNECTICUT				
Fairfield	27,610	1546.2	49,514	489.9
Hartford	23,533	1473.9	50,061	495.1
Litchfield	5,193	1437.7	13,463	494.7
Middlesex	2,908	1595.9	7,515	460.4
New Haven	18,155	1559.0	45,871	445.6
New London	4,993	1669.4	16,521	581.8
Tolland	1,054	1443.4	4,420	549.5
Windham	1,519	1402.2	9,955	500.4
CONNECTICUT TOTAL	84,965	1527.3	197,320	489.7
RHODE ISLAND				
Providence	21,557	1444.9	69,042	543.3
Bristol	1,484	1604.2	4,244	634.7
Kent	3,369	1395.0	7,126	463.2
Newport	3,210	1382.1	5,143	539.0
Washington	1,444	1585.8	4,719	535.4
RHODE ISLAND TOTAL	31,064	1447.2	90,274	540.6
GRAND TOTAL	254,698	1570.7	738,896	561.6

Because Their Development is Based Upon a Full Understanding of Heating Industry Requirements

WEBSTER ELECTRIC TRANSFORMERS

When a Webster Electric Transformer goes into service it is a guarantee of top performance—positive ignition under all conditions; long, dependable life, freedom from ignition troubles. Webster Electric Transformers are of well balanced design that is an outgrowth of thirty years of research and manufacturing experience.

They are widely used as standard by the industry and are well adapted to simple and convenient replacement.

Webster Electric Transformers have the following features:

Easy interchangeability.

Three sizes offer wide adaptability.

Extra sized junction boxes provide easy connections.

Separate mounting plates for replacement.

Secondary coil protected by mica insulation.

FACTORY TRAINED FIELD SERVICE AT KEY POINTS

No dealer is very far away from Webster Electric factory-trained and equipped service. Webster Electric Authorized Service Stations are located at many key points for servicing pump elements that are best handled by experts who use only *genuine* Webster Electric parts. This unique authorized Webster Electric field service is available to every oil burner dealer. Write for a list of names and addresses of these authorized field service stations. We feel sure they can be of considerable help to you.

Thermodrive is designed to regulate the fan speed in a forced warm air heating system so as to give more even room temperatures, less stratification, more comfort.

Thermodrive automatically increases fan speed as bonnet temperature increases. Speed increases can be as much as 65 percent from low to high. The off-cycle operation is reversed, and fan continues at decreasing speeds until cut-out temperature on bonnet control is reached.

A warm air "sample" is continuously drawn from the bonnet and discharged over a thermostatic bellows, which in turn actuates a sliding sheave of a split pulley. This changes its effective diameter and results in either increased or decreased speed of the fan.

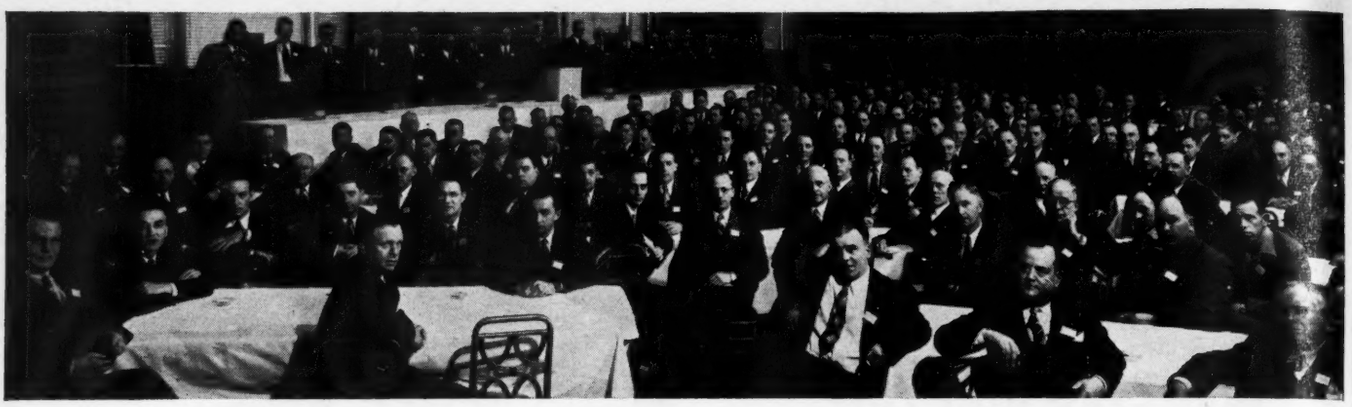
Write for full information today.

WEBSTER ELECTRIC

RACINE WISCONSIN

Export Dept.: 13 E. 40th Street, New York (16), N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"



Pacific Oil-Heat Institute In Annual Meeting, Portland

AT A ONE-DAY SESSION March 1, the Pacific Oil-Heat Institute held its annual meeting in Portland's Hotel Multnomah. With 260 industry men registered from Oregon, Washington, California, Idaho and Montana, this was substantially the largest meeting yet held by the group in its four-year career. Charles R. Holloway, Jr., vice-chairman for the West of the Distribution Div. of OHI of America, Inc., presided at the meetings and introduced the speakers.

Officials of several local associations that tie-in with OHI were introduced, and these included Paul C. Harbaugh, president of the Oregon Fuel Merchants Assn., three other officials of that same association—Harry A. Norquist, chairman of its Burner Committee, J. T. Burtchaell, chairman of its Oil Committee, and Bill Alexander, association manager — then Fred P. Griffin and H. W. Montgomery, respectively president and secretary, OHI of Washington, Seattle, J. L. Brainerd, Seattle Oil Burner Assn., Robert Watt, president, Oil Dealers Credit Assn., Seattle, and A. C. Presley, secretary, Western Burner & Oil Distributors Assn., Sacramento, Calif. Also introduced to the group were M. L. Vining, Seattle, and James Yeomans, Portland, former OHI vice-chairman for the West.

After the group had been welcomed by Mayor Earl Riley of Portland, who explained that the warm sunshine that day was typical of every day in the year, the first speaker was Carl R. Jonswold, National Chairman, OHI's Distribution Division.

His topic was "Retail Fueloil Distribution" and the development was a down-to-earth discussion of a number of things his own company (Arrow — Chicago) had tried and found successful or otherwise. For example, he spoke of their experience with trailer trucks on retail deliveries, of their unorthodox accounting methods, of the fact that they neither mail invoices nor monthly statements, that they have established a Customer Service Department to handle every customer call or communication of any nature. Jonswald advocated selling burners with oil, so that a company would create its own business rather than tearing down the work of someone else. He warned of political installation codes for oilburners that are sure to increase in number if there are many faulty installations; he advocated lowest cost burner service, but not below cost service; he spoke of cooperative labor negotiations as one of the most useful functions of an association today, and closed with a resume of the oilheating industry's outlook in the next few years.

The next speaker was W. A. Kemp, head of Sundstrand Pump Div., Rockford, Ill., and chairman of the Accessory Div. of OHI. He spoke of the accessory market, using it as an index to the probable oilburner output in the coming months. He expects burner components generally to soon become tighter than they are just now, but not as tight as they were at some points in 1946. Controls, he believes, will be relatively plentiful, although he foresees copper as becoming tighter again which will slow up motors and transformers from the larger companies, with the "fly-by-nights" able to help some at stiffer prices.

Kemp estimated that in 1946 five manufacturers of fuel units shipped about 773,000 of these, including exports, and that 1947 output can be about a third above that, if called for. During the past 60 days his company has experienced a sharp pickup in the demand for pumps for replacements and he expects this to

SEATED—LEFT TO RIGHT—*W. A. Kemp, Chairman of the Accessory Division—OHI; Robert Gray,* FUELOIL & OIL HEAT; *Fred P. Griffin, President of the OHI of Washington; John L. Cooley, California Research Corporation; Harry M. Myers, Vice-President OHI of Washington.*

STANDING—LEFT TO RIGHT—*Denton Bacon, Vice-President Oregon Fuel Merchants Association; J. L. Brainerd, President Seattle Oil Burner Association; A. S. Kozman, Representing OHI of California; Harry Norquist, Chairman Burner Committee, Oregon Fuel Merchants Association; Charles R. Holloway, Jr., National Vice-Chairman—Distribution Division—OHI; Carl Jonswold, National Chairman, Distribution Division, OHI; John K. Polson, Representing Oil Dealers Credit Association—Seattle; Paul C. Harbaugh, President, Oregon Fuel Merchants Association.*

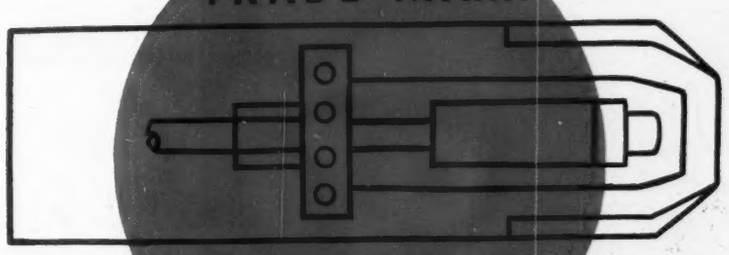
HORSE SENSE UNLIMITED!

WE PREDICT THAT IN A SHORT TIME YOU *AND THE CONSUMER* WILL COME TO LOOK INTO THE MOUTH OF AN OIL BURNER AS NATURALLY AS HORSEMEN LOOK INTO THE MOUTH OF A THOROUGHBRED—*TO APPRAISE ITS VALUE!*

THE INCREASING USE OF CAT. CRACKED FUELS — THOUGH HIGHER IN HEAT CONTENT — REQUIRES MORE EFFICIENT CARBURIZATION, MORE THOROUGH MIXING OF AIR AND OIL *AT THE NOZZLE*. THEN TOO—RISING FUEL COSTS ARE MAKING THE CONSUMER EVER MORE MINDFUL OF OIL SAVINGS, *MORE EFFICIENCY CONSCIOUS*. THE NEW

AUTO-HEAT

REG. TRADE MARK



FIRE-BALL

with the patented Combustion Head, under license from the SHELL DEVELOPMENT COMPANY, INC., is your answer to all of these demands; the Fire-Ball guarantees smokeless combustion even with low oil rates; CO_2 up to 14½%—assured oil savings up to 20% over conventional gun type burners!

We will give prompt consideration to your order for one of these extraordinary burners for the purpose of making YOUR OWN field tests under the severest conditions—to convince you that this is THE BURNER you will WANT to sell—because its got something you CAN sell!

Inquiries are welcomed from good distributors and dealers.

WRITE, WIRE OR PHONE

AUTO-HEAT CORP.

311 W. 66th ST. NEW YORK 23, N. Y.

(TRafalgar 3-1700)

"For 20 years—the best in oilheating"

fueloil oil heat

THE AUTO-HEAT FIRE-BALL
WILL SOON BE STANDARD ON THE FAMOUS
Auto-Heat Conversion Burners
UP TO 2 GAL. PER HR.
ON THE
AUTO-HEAT ALL STEEL
BOILER-BURNER UNITS
AND ON THE
AUTO-HEAT Double-Duty
AIR CONDITIONERS

continue, because so many old pumps have been rebuilt and reworked to death during the years of scarcity. Summing up, Kemp expects that during 1947 the oilburner manufacturers will be able to supply more burners than dealers will be able to install, due to shortage of installation materials, such as tanks and piping, and installation labor.

Next, John L. Cooley of California Research Corp., subsidiary of Standard Oil Co. of California, talked about "Catalytic Stocks in Heating Oils." Highlight statements from his discussion included these, "Crude can now be made into almost 100% gasoline, 100% heating oil or 100% gas" . . . "Gasoline yields have grown from an original low point of 2% up to 35 or 40%" . . . "Any difficulties with catalytic fuels are simply growing pains in the middle of the barrel and we can't expect uniformity of product until the market patterns settle down a bit" . . . "While the Pacific area has used one oil, PS-200, for both oilburners and diesel applications, the tendency now is to separate the two, with the higher cetane product going to diesels."

Cooley then explained the differences between three types of catalytic operation, the Houdry, the Thermofor and the Fluid. Further comments were, "Catalytic fuels can range from excellent to very bad, but the worst of them can be reprocessed to equal the cleanest and best" . . . "To work best with catalytic fuels, oilburners should have light fireboxes, using refractories that heat up and cool off very fast, to avoid cooking the oil that may be left unburned when the burner stops" . . . "Burners should have quick cut-off valves, to prevent any drip after the pump stops."

The final speaker, after the cocktail and dinner hour, was Robert Gray of FUELOIL & OIL HEAT, who compared the Pacific Coast market with those of other parts of the country, first from the standpoint of public appreciation of oilheating in which the West rates much higher than the Midwest or East, and second, explaining certain industry practices that could seriously jeopardize this degree of public favor unless studied and watched.

Two-Way Truck Phones Used by Oilheating Firms

THE NEW TELEPHONE service, from office to trucks on the street, has recently been put to use by two Eastern oilheating companies, Kleen-Heet Oil Co., Inc., of Brooklyn, and Modern Heat & Fuel Co., Philadelphia. Each company has outfitted both fueloil trucks and burner service trucks with the two-way talking facility, but not their full fleets as yet; it will probably never be necessary to have all trucks susceptible to immediate or emergency calls.

From experience thus far, it seems possible to answer any emergency call for oil or service within an hour at the longest.

Kenneth L. Walker is announced as vice president in charge of production, Kalamazoo Stove & Furnace Co., Kalamazoo, Mich. Since 1940, Mr. Walker has headed his own company of consulting engineers in Detroit. A graduate of the University of Illinois, his experience has included planning, engineering and production management methods.

Springtime is
CLEAN-UP TIME
You, Too, Can Be a Cleaner-Upper with the General
EVERY FUEL OIL SYSTEM A PROSPECT
A MODEL SIZE FOR EVERY BURNER
SIMPLE INSTALLATION
GENERAL IS THE LEADER IN THE FIELD
A SURE MONEY-MAKER

NOW IS THE TIME TO GET READY FOR *CLEAN-UP* SALES!

Fuel oil heating systems will soon be turned off for the season. You will begin your seasonal work of cleaning burners and making repairs and adjustments. This is the time to *clean up on added sales* with the *General.* Where systems are not equipped with filters sell *General Filter* installations. Where filters are in use make filter cartridge replacements. Records prove that *General Filters* are easy to sell . . . they are the hottest item in the fuel oil business! Advertising circulars are ready to help you sell. Contact your jobber immediately or write direct for information and discounts.

THREE MODEL SIZES GUARANTEE SALES *WHEREVER FUEL OIL IS USED*

DeLuxe Model
2A-300
Filter Size
63 cu. in.

Master Model
2A-700
Filter Unit
Surface
72 sq. in.

Standard Model
1A-25
Filter Unit
Surface
31 sq. in.

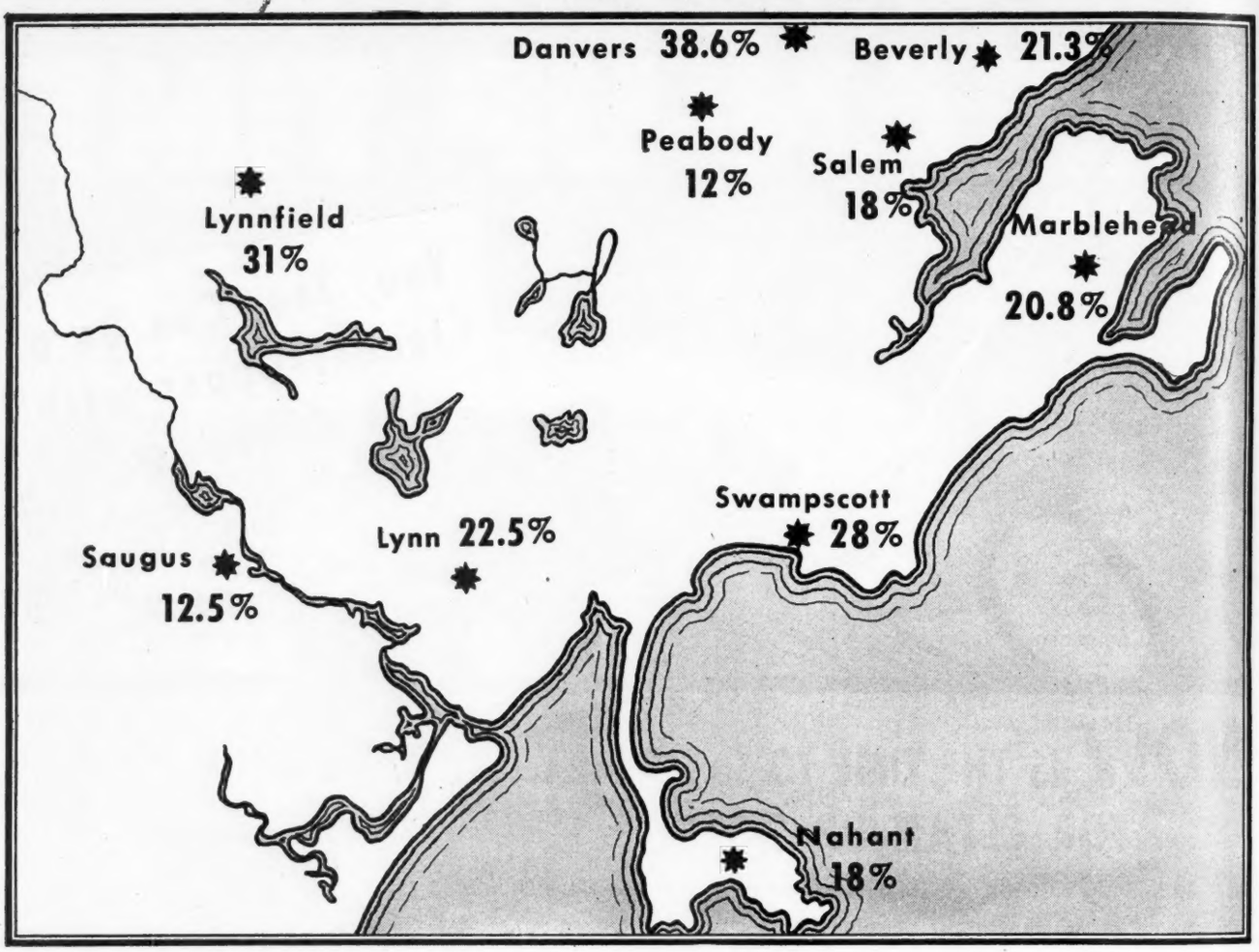
GENERAL FILTERS INCORPORATED **GENERAL FUEL OIL FILTER** 12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: GENERAL FILTERS CANADA, 1227 ST. CLAIR • TORONTO, ONTARIO

FACTORY REPRESENTATIVES: WILLIAM J. DEBLER & SONS, Newark, N. J., Philadelphia, Pa., Brookline, Mass.; V. B. KATHE, Vancouver, Wash.; WESTERN SALES COMPANY, San Francisco, Cal.; W. V. NUTTALL COMPANY, Salt Lake City, Utah; E. R. PAULINE & SON, Des Moines, Iowa; L. E. SCHULEIN COMPANY, Chicago, Illinois; GRANSE CORPORATION, St. Paul, Minn.; RICHARD BARTHELMESS SALES COMPANY, Jacksonville, Fla.; T. C. FRENCH COMPANY, Akron, Ohio; A. G. ALLEN COMPANY, Indianapolis, Ind.; JEFF A HEDDON COMPANY, Atlanta, Georgia.

fueloil & oil heat

LET'S LOOK AT LOCAL LEADERSHIP



Despite the fact that 85 other makes are represented in the Lynn territory, 19.6% of all oil burners sold in that territory since 1934 have been Timken Silent Automatics . . . nearly one out of every five! In one community the figure is 38.6%.

NATIONAL leadership? Yes! Timken Silent Automatic is 'way in front.

But more important is Timken's *local* leadership which, to an oil heating dealer, is the only leadership that counts.

Take a look at the Lynn (Mass.) territory, bailiwick of Rollie Booma and Bill Breed, Timken dealers since 1934. Here's a perfect example of what dealer-manufacturer teamwork can accomplish.

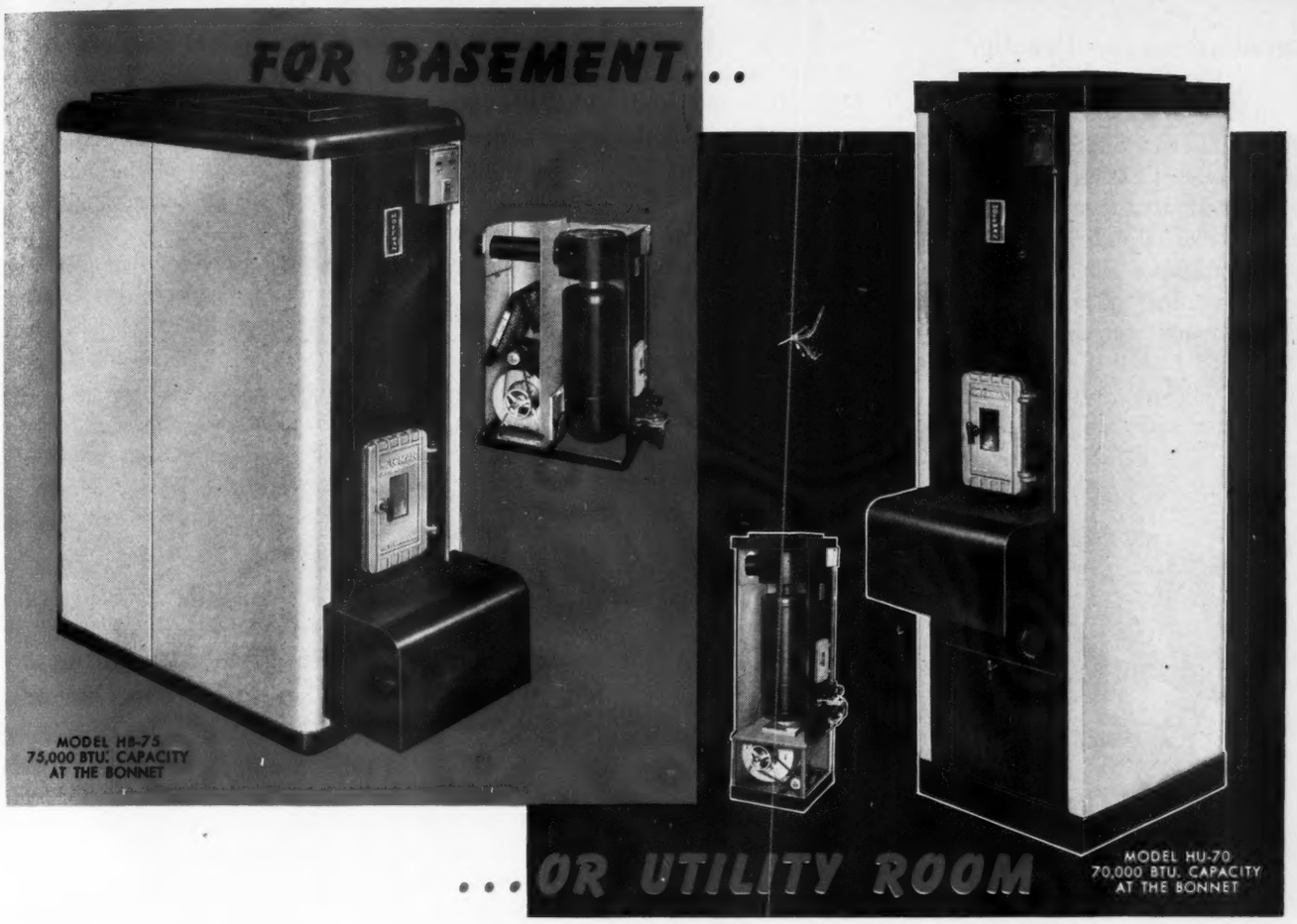
This record has been set, not by sleight-of-hand, but entirely by selling a quality product in a quality manner . . . to a buying public that is perhaps the most critical to be found anywhere in the country.

Nor is it an exceptional record. Scores of Timken dealers can point to their one-out-of-four, one-out-of-three and one-out-of-two ratios against odds as great if not greater.

There's no secret to sales success. It's simply a matter of selling the right product the right way . . . a product that performs so well for its owners that others ask for and demand the *same* product.

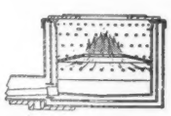
This is the basic reason why the Timken Dealership Franchise is the most highly prized in the oil heating industry.

TIMKEN
Silent Automatic
OIL HEAT
TIMKEN SILENT AUTOMATIC DIVISION
The Timken-Detroit Axle Company
JACKSON, MICHIGAN
The Accepted TIMKEN HEAT S A Standard



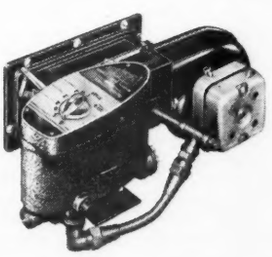
a new and better kind of

LOW-COST HEATING



On low, the flame burns in suspension just above pilot ring.

On high fire, flame leaves burner bowl entirely and burns above pilot ring.



The constant-level oil valve insures a uniform delivery of oil, automatically, and at exactly the proper rate. The Hoffman burner automatically mixes the correct proportions of oil and air and maintains its own draft to insure clean, complete and efficient combustion.

In the pre-war-tested Hoffman Controlled Heat Furnace you can offer an *automatic, oil-fired* system developed especially for small, modestly priced homes. Genuinely conditioned warm air, thermostatically controlled to meet outdoor weather conditions. Two models, for homes with and without basements, offering many advantages never before available.

2-Stage Burner for Comfort and Economy

On low, or pilot fire, the flame (usually blue) burns in suspension just above the pilot ring, entirely within the burner bowl.

On high fire, the flame leaves the burner bowl entirely and burns above the ring . . . a clean, yellow, smokeless flame, responsible for the superior operating efficiency of the Hoffman Furnace. Since it is only the oil vapor at the top of the burner pot which burns, there is a pool of cool oil in the bottom of the pot at all times. This accounts for the lack of carbon, which often impairs efficiency of other type burners.

Other advantages include: Gasket Sealed Burner; Stainless Steel Flame Baffle; Fuel Saving Tubular Radiator; centrifugal type Blower that quietly moves more air; large Filters . . . all coordinated in design . . . a genuinely modern example of packaged heat. Write today for Bulletin.

HOFFMAN SPECIALTY COMPANY
1001 York St., Dept. FO-4, Indianapolis 7, Indiana.

HOFFMAN Controlled Heat FURNACES

MAKERS OF VALVES, TRAPS, REGULATORS, VACUUM AND CONDENSATION PUMPS, FORCED HOT WATER HEATING SYSTEMS

SOLD BY LEADING WHOLESALERS OF HEATING AND PLUMBING EQUIPMENT

fueloil & oil heat

Canadian Service Practice Found OK; Study Rules

RT. HON. C. D. HOWE, Minister of Reconstruction and Supply, told the Canadian House of Commons, February 21, that he had traced several accusations to the effect that oil distributing companies would not service oilburning equipment installed by firms other than their own and had found that this was not true.

He doubted whether it could be proven that the companies were distributing oil in a discriminatory way. As for the supply of fueloil, he said he had been assured some time ago by the committee of oil distributors that had been set up last year that enough crude oil had been purchased to look after this winter's requirements.

* * *

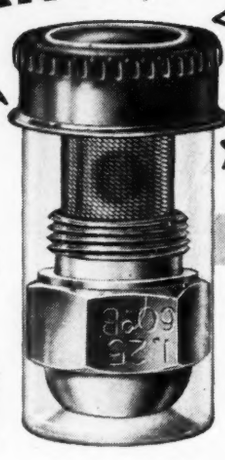
W. L. Clarmont, Dominion Fire Commissioner, in a statement, February 28, said concern had been expressed at a recent meeting of the Dominion Fire Prevention Association executive over "increasing hazards which were developing due to the increasing use of oilburners."

A. H. S. Stead, president of the association, had reported that in a six-week period last fall, 69 claims for losses from fires in oilburners had been received by insurance companies for the city of Montreal alone. Flooding of the burners appeared to be the predominating cause of the fires.

"It was recommended that every effort be made to introduce uniform provincial regulations to ensure the safe installation of oilburners."

Provincial regulation now are in effect in British Columbia, Alberta, and Manitoba, and a number of other provinces are considering their adoption. Certain municipalities have incorporated oilburner regulations in their by-laws.

Dependable AS THE STARS



BALLOFFET DESIGN NOZZLES by DELAVAN

For maximum dependability in oil burner nozzles—for uniformly efficient performance—depend on Balloffet Design Nozzles by Delavan.

DESIGNED FOR DEPENDABILITY! The Balloffet Design with its patented self-aligning distributor is widely recognized as the best in nozzle engineering.

BUILT FOR DEPENDABILITY! Nozzles by Delavan are produced with the most modern equipment and under the most rigid controls to assure absolute uniformity.

TESTED FOR DEPENDABILITY! Every nozzle is carefully tested and calibrated to assure maximum accuracy of both capacity and angle of spray.

PREFERRED BY THE INDUSTRY
DISTRIBUTED BY LEADING JOBBERS

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

DELAVAN ENGINEERING CO.
Established 1937
DES MOINES 9, IOWA

U. S. Department of Labor Fueloil Prices December

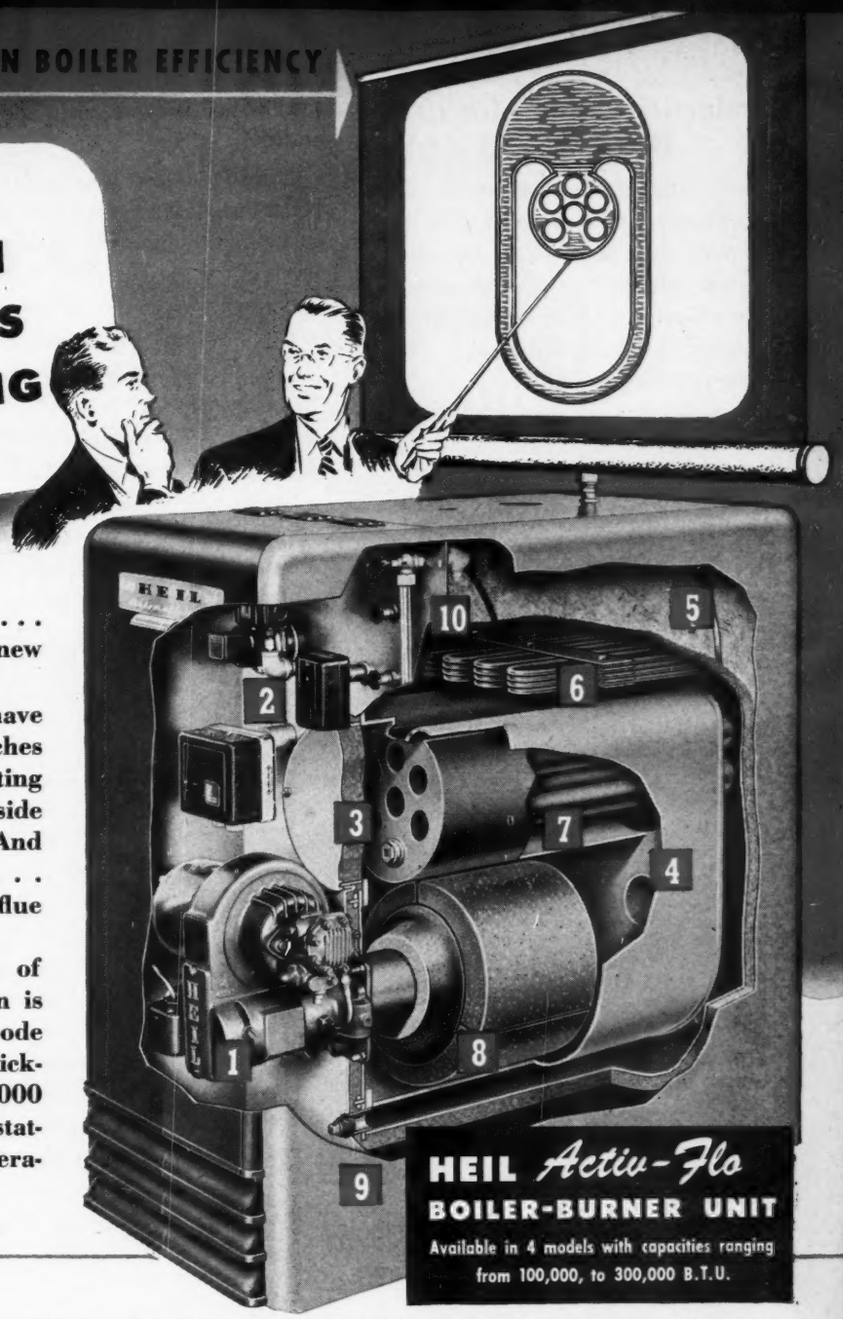
FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various supplies in each market, the prices are averaged and published. Those in the table that follow were taken December 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	10.40	10.28	8.76	...
Bridgeport	10.42	...	9.10	...
Fall River	...	...	9.37	...
Manchester	11.40	10.90	9.60	...
New Haven	...	...	8.82	...
Portland, Me.	10.30	10.30	8.80	...
Providence	...	10.05	8.80	...
Buffalo	10.95	...	10.50	10.50
Newark	...	9.95	8.74	...
*New York	...	...	9.04	...
Philadelphia	...	10.12	8.63	8.62
Rochester	11.40	11.40	10.10	10.10
*Chicago	9.69	9.25	8.87	8.87
**Cleveland	...	...	...	...
**Detroit	...	9.78	9.27	8.76
*Des Moines	...	9.38	8.87	8.87
*Kansas City	...	8.98	8.47	7.82
Milwaukee	...	9.80	9.30	9.30
Minneapolis	9.90	9.90	9.20	9.20
Omaha	...	9.20	8.70	8.70
St. Louis	...	...	...	...
St. Paul	9.90	9.90	9.20	9.20
Baltimore	...	9.70	8.90	...
Norfolk	...	9.90	8.70	...
Richmond	...	10.20	8.90	...
Washington	...	10.20	9.30	...
Charleston, S. C.	...	10.90	8.90	...
Jacksonville	...	10.78	9.83	...
Savannah	...	11.10	10.04	...
**New Orleans	...	10.58	9.27	9.28
Portland, Ore.	...	9.80	8.30	4.76
***San Francisco	...	9.22	7.69	4.51
**Seattle	...	10.52	8.93	5.16

* Price includes 2% sales tax.
** Price includes 3% sales tax.
*** Price includes 2½% sales tax.

WH'N YOU LOOK AT ALL THE FACTS ON BOILER EFFICIENCY

HEIL'S OUT IN FRONT WITH 4896* SQUARE INCHES OF PRIMARY HEATING SURFACE



HEIL *Activ-Flo* BOILER-BURNER UNIT

Available in 4 models with capacities ranging from 100,000, to 300,000 B.T.U.

If it's peak efficiency you're looking for . . . then step up and take a good look at Heil's new Activ-Flo Boiler Burner Units.

See how ingeniously Heil engineers have concentrated a total of 4896* square inches of completely water-backed primary heating surface into an oil-fired boiler whose outside dimensions are only 23½" x 45" x 50". And examine the full water-leg construction . . . efficient fire tube design . . . and long, flue travel which assure greater fuel economy.

However, efficiency is but one feature of these new Heil Boilers. Their construction is in strict accordance with the A.S.M.E. code . . . flange steel plate with minimum thickness of ¼ inch and tensile strength of 45,000 pounds. And, each boiler is tested hydrostatically to 60 pounds pressure for steam operation at 15 pounds maximum.

*Note: Applies to 140,000 B.T.U. model, others in proportion.

Check THESE 10 OTHER FEATURES THAT MEAN MORE SALES

1. High efficiency Heil Activ-Flame Burner is readily accessible behind the snap-on unit door.
2. Primary control and controls for steam or hot water are easily reached through the unit door.
3. Cleanout for fire tubes provides direct access to tube and flues through door. Note straight fire tubes.
4. Heavy-gauge, fusion welded boiler conforms with A.S.M.E. specifications, bears the A.S.M.E. stamp and is inspected by Hartford Steam Boiler and Insurance Co.—your guarantee of safety.
5. Thick blanket insulation entirely surrounds the boiler shell to prevent heat loss and increase efficiency.
6. Instantaneous or storage type domestic water heater can readily be inserted and removed from rear.
7. Six fire tubes and greatly lengthened flue travel assure high heat transfer efficiency. Water leg adds to heat exchange surface.
8. New Heil tunnel-type, pre-cast refractory combustion chamber affords most efficient combustion and extremely quick heating.
9. Streamlined jacket has interlocking panels finished in striking new color combinations. War-developed "aircraft" enamel resists peeling or cracking.
10. Water level gauge is visible through an inconspicuous opening in side of boiler jacket.

GET DETAILS ON A HEIL FRANCHISE NOW YOUR TERRITORY MAY STILL BE OPEN

THE HEIL CO., Dept. F-4
Milwaukee 1, Wisconsin

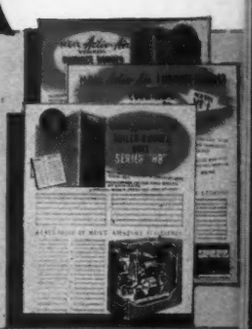
Please send me your new dealer specification sheets showing full color reproductions of Heil 1947 Boiler and Furnace-Burner models with complete details about a Heil franchise and openings in my territory.

Name.....

Company.....

Address.....

City.....**Zone**...**State**.....



THE HEIL CO.

GENERAL OFFICES ● MILWAUKEE 1, WISCONSIN

Manufacturers of Quality Automatic Heating Equipment Since 1924

Production Outlook for 1947 Better Than Last Year

PRODUCTION OF MOST ITEMS THE oilheating industry uses is expected to be higher this year than in 1946, according to a forecast published by the Office of Temporary Controls, Civilian Production Administration. Predictions range from a continuation of production levels of late 1946 to outputs equal to the demand for some materials.

Electric Motors: Fractional horsepower motor sizes were produced at the rate of more than 2 million units a month in the last quarter of 1946, and production was limited by a shortage of silicon sheets. Total shipments last year were 19,546,599 by motor manufacturers, exclusive of the motors produced by oilburner and other manufacturers for their own use. Unfilled orders at the end of the year represented 19 months' shipments at the December rate. Though demand continues high, order cancellations are reported to be increasing, and production is expected to remain at about the level of the last quarter of 1946 until the last half of this year, when increased capacity for the output of silicon steel is expected to come into operation.

Heating Boilers: Low pressure cast iron boiler output is expected to be about equal to, or slightly higher than the production levels of the last quarter of 1946, but total boilers cast this year is expected to be about 15% above the 1941 output. Steel boiler production is increasing rapidly, and it is expected that total output this year will be sufficient for all new construction and essential replacements.

Warm Air Furnaces: Production this year is expected to exceed 1946 levels by substantial margins, and sufficient to meet all requirements, though several shortages remain. Coke, pig iron and specific gauges of steel are still short. Combustion controls are available in quantities to about meet requirements. Blower motors are tight but ratings are helping to get motors for furnace use.

Cast Iron Radiation: Output slowed by shortages of coke, pig iron and scrap, but production is expected to continue at about the level of the fourth quarter of 1946, or better, and total 1947 production may exceed 1946 by about 35%.

Hot Water Heaters: Expect ample supply of water heaters in 1947 and some accumulation of inventory. Requirements are believed to be about 2.7 million units, and production is expected to reach 3 million units, almost 10% above 1946. Of 2,882,000 heaters produced in 1946, 61% were direct-fired gas, 17% were electric, 10% were indirect, 8% were direct-fired oil, and only 4% were for coal or wood.

◈

Steel Firm Converts Gas Facilities to Oil

ALLEGHENY LUDLUM STEEL CORP., is converting its slab-reheating furnaces at West Leechburg, Pa., from gas to oil in an attempt to be free of gas shortages. Other plants are expected to be converted so that the company will have regular and stand-by oilburning equipment installed at West Leechburg and Brackenridge, Pa., by next winter.

These plants shut down during the recent gas crisis, throwing 800 men out of work temporarily. Some men are reported to have worked only four weeks in the first two months this year.

DEALERS—here's a FLOOR FURNACE you can sell and forget

The original oil burning floor furnace, Kresky is the only one with forced air circulation bearing the Underwriters' label. Four sizes . . . easily installed . . . takes as little as 30" clearance. ★ Altho unprecedented demands necessarily limit current shipments to old customers, Kresky invites negotiations from live dealers for territories still open.

Listed by Underwriters' Laboratories, Inc. To Burn No. 3 Oil (Diesel) or lighter

KRESKY MANUFACTURING COMPANY
Pioneers in Oil Burning Equipment Since 1910
PETALUMA, CALIFORNIA

Kresky Oil BURNERS

HEATING • COOKING • HOT WATER • INDUSTRIAL

THE NEW 1947 LINE OF

QUIET AUTOMATIC OIL BURNER

ENGINEERED FOR
Efficiency
MADE IN SIX SIZES
Approved by Board of Fire Underwriters, N. Y. C. Board of Standards & Appeals, Connecticut State Police, Commonwealth
1 TO 20 GALS. PER HR.
of Massachusetts, Dept. of Safety—Philadelphia and used by U. S. Government Agencies including U. S. Navy and Army.

A QUALITY LINE OF DEPENDABLE OIL BURNERS

There are thousands of QUIET AUTOMATIC Oil Burners in use for years, some for nearly a quarter of a century. The actual oil burner experience plus our engineering background means full assurance that QUIET AUTOMATIC oil burners are the finest made. Many modern methods which are now accepted on oil burners, were originated by members of our firm.

QUIET AUTOMATIC Oil Burners are made in 6 sizes from 1 gal. per hour to 20 gals. per hour. Write us today for literature. Although we have hundreds of loyal dealers and distributors and are backlogged with thousands of orders we'll be glad to tell you about our new 1947 burners and if your territory is open.

Quiet Automatic Burner Corp.

MANUFACTURERS & ENGINEERS
49 BLOOMFIELD AVE. at PARK AVE.
NEWARK 4, N. J.
Factory 17-19 Grove St., Montclair, N. J.
(Newark Suburb)

"Time" Fuel Survey Needs Interpretation

"TIME" MAGAZINE IS currently distributing a home survey, called "The Houses Time Families Live In," giving considerable useful information on living habits and preferences for home facilities, including heating fuels.

The survey is well done, the report is clearly qualified in a number of particulars, and the magazine deserves praise for a worthwhile job. However, a superficial reading of the report would give gas a lot more strength than warranted by a full study.

Based upon 1,506 personal interviews, all with "Time" subscribers, present fuels used by the group are gas, 38.1%; oil, 23.4%; coal, 33.4%.

Future fuel preferences expressed by families planning a change in heating plants were gas, 46.8%; oil, 32.9%; coal, 12.8%.

The circumstances surrounding the interview survey make it clear that these ratios are not intended to be representative of the country as a whole. These points must be recognized:

(1) The persons interviewed are "Time" subscribers . . . above average financially and socially.

(2) Fifty per cent live in the upper tenth rental areas of the cities. Sixty-two per cent live in the upper fifth rental areas.

(3) The survey was made in September and October, 1945, a full year before the gas utilities started losing ground due to shortages.

(4) Oilheating is concentrated in the colder climate areas of the country. New England, Mid-Atlantic and Midwest areas have 84% of all the oilheating. In the "Time" survey, only 52% of the families interviewed live in those regions.

◈

Companies Release Year End Statements

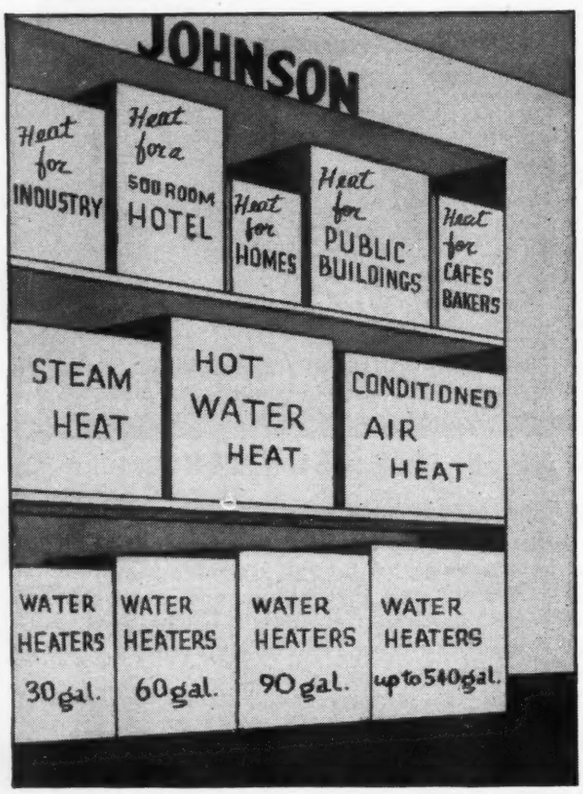
FINANCIAL STATEMENTS released by the companies listed below for the year ending December 31, 1946, reflect the effects of conversion to peacetime production, termination of operations exclusively war work and higher production costs.

American Radiator & Standard Sanitary Corp. reported net sales of $123,734,095 for 1946, compared with $120,001,954 for 1945. This resulted in $9,746,830 profit after depreciation for 1946, as contrasted to a figure of $10,804,871 for 1945. Earnings per common share of 95 cents were provided on 10,043,291 shares, as compared with earnings of 53 cents per share in 1945.

American Stove Co. reported a drop in sales, $20,649,163 last year, as opposed to $26,868,805 for 1945, but net profit for 1946 of $1,185,567 was an increase over the 1945 figure of $658,933. Earnings per share in 1946 amounted to $2.19; in 1945, $1.22.

Anchor Post Products, Inc. finished 1946 with a net profit of $298,445, after charges and federal taxes. This compared with a figure of $128,246 for 1945, with earnings per common share of $1.30 in 1946 and 55 cents in 1945.

General Electric's net income available for dividends for 1946 was $43,039,589, equivalent to $1.49 a share of common stock, compared with $56,540,555 and $1.96 a share in 1945. Net sales reflected a decrease in 1946 also, amounting to $679,078,216, 48% less than 1945, but



★

Johnson builds fine OIL BURNERS for *every* Heating Need!

The dealer who holds a Johnson Burner franchise enjoys two valuable advantages which help him make correct recommendations and satisfactory sales.

First, he has at his command a complete range of oil burning equipment . . . highly specialized equipment designed to fill widely divergent needs.

And second, he has at his service the practical knowledge and advice of the Johnson staff of engineers . . . experts who have solved every sort of heating problem during 44 years of specialized oil-burning research.

You needn't be afraid to tackle any heating equipment project if you are a Johnson Dealer. *Perhaps you should be.* We'll gladly send you details.

Johnson Oil Burners

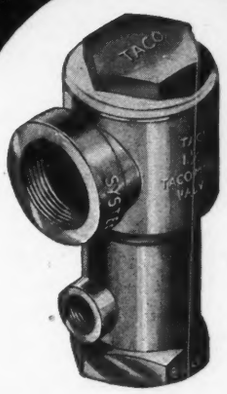
S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

Builders of fine Oil Burner Equipment since 1903

Low Cost TACO'S NEW TACO-MATIC VALVE

1

Modulates heating system temperatures to meet changing outdoor weather conditions.



2

Makes possible better Tankless heater operation.

Taco Scoops the Field

TACO TACO-MATIC

Low purchase price and installation costs.

Simple foolproof operation with time-tested and field-proved thermostatic element.

Modulated Heat Now Available for Low Cost Housing

Taco does it by supplying *de luxe* modulated hot water heat at *lowest cost!* The foolproof Taco Taco-Matic Valve works equally well with either inside or outside temperature controls for intermittent operation.

More Comfortable Heating

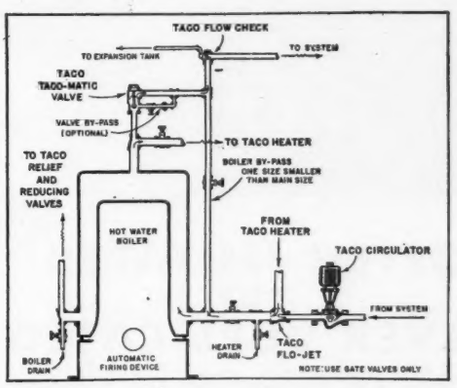
Taco Taco-Matic Valve has a gradual operation that spreads heat evenly throughout the system as it automatically blends or modulates heating system temperatures to meet changing outdoor weather conditions.

Improved Tankless Heater Operation

Taco Taco-Matic definitely improves operation of Tankless Heaters on forced hot water jobs. Performs the function of a reverse acting control *positively*. It prevents boiler water from leaving boiler until firing device builds the boiler temperature up to approximately 180°F.

LOWEST COST

Taco Taco-Matic is the biggest advance yet made in low cost Modulated Heat and insures better tankless heater performance. Another reason why we say you get Better Heating—Better with Taco.



Makes More Money for Contractors

Send for folder on this new all bronze Taco Taco-Matic Valve. See for yourself how it works . . . how it makes more money for contractors and gives their customers better heat and better tankless hot water supply.

Better Heating—Better with Taco

TACO HEATERS, INC.
342 MADISON AVE., NEW YORK 17

In Canada: Taco Heaters of Canada, Ltd., 24 Adelaide St., W., Toronto

TACO HEATERS, Inc.
342 Madison Ave.,
New York 17, N. Y.

Please send Taco's new Taco-Matic folder.

Name.....

Address.....

.....

fuel oil & oil heat

more than double the average annual volume during the five years ended with 1940. A total of $2,290,664 will be available for early distribution to about 126,000 employees, eligible under the company's general profit sharing plan.

Minneapolis-Honeywell Regulator Co. reported net earnings of $5,119,143 for 1946, after provisions for income taxes. Net earnings for 1945 were $3,436,637. Net sales of $45,940,081 for 1946 compared with $84,392,427 in 1945. The 1946 net income was equivalent, after preferred stock dividends, to $3.87 per share of common stock, contrasted to $2.48 per common share paid in 1945. Honeywell made and shipped more than double the company's prewar record of automatic control instruments, and Brown Instrument Co. established new records for both sales and output.

◈

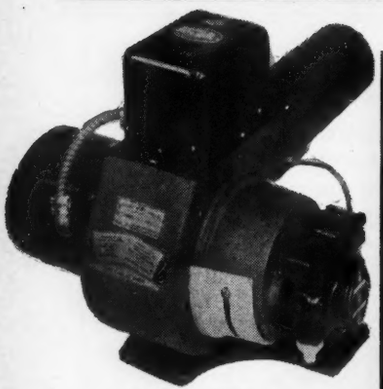
V. Robins Tate, vice president and secretary, Perfex Corp., Milwaukee, Wis., was elected executive vice president at the February meeting of the Board of Directors. *Hugh Kelly* was named chief engineer. Both joined Perfex after several years with Time-O-Stat Controls Co. and Minneapolis-Honeywell, Mr. Tate in 1934; Mr. Kelly in 1935. Mr. Tate joined as assistant secretary, advancing to the position of secretary in 1936 and became a vice president in 1943. In his new position he will continue as secretary. Mr.

Tate Kelly

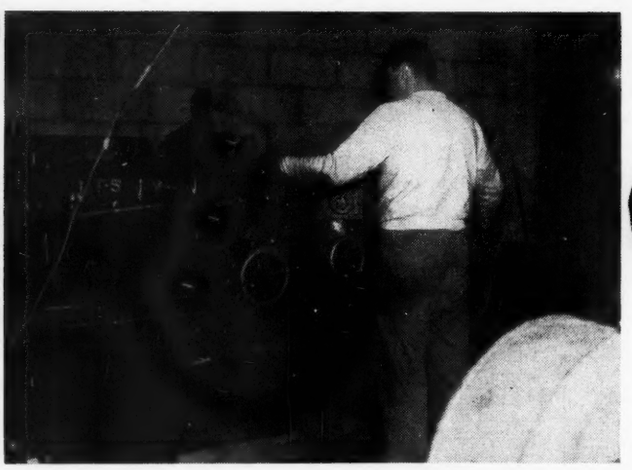
Kelly came to Perfex as chief designer and during the war years was in charge of production engineering, and later, industrial engineering.

Reginald C. Cushing, as sales manager of the air conditioning controls div., Pacific region, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., will make

SILENT-FLAME OIL Burners



MODEL "M"



MODEL "B"

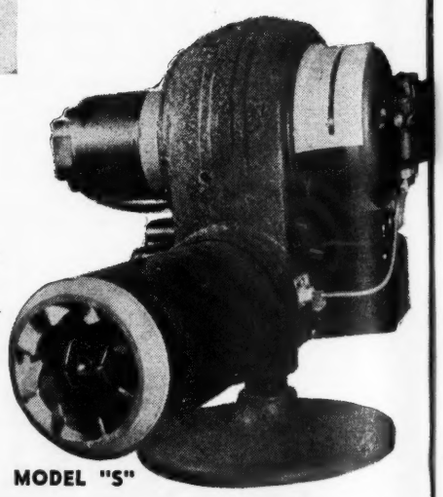
MODEL "F"

OFTEN IMITATED
BUT
NEVER DUPLICATED

Silent-Flame Oil Burners are the product of over 30 years of oil heating experience. Models from 1 gallon-per-hour to 20 gallons-per-hour.

Standard Equipment. Precision Built.

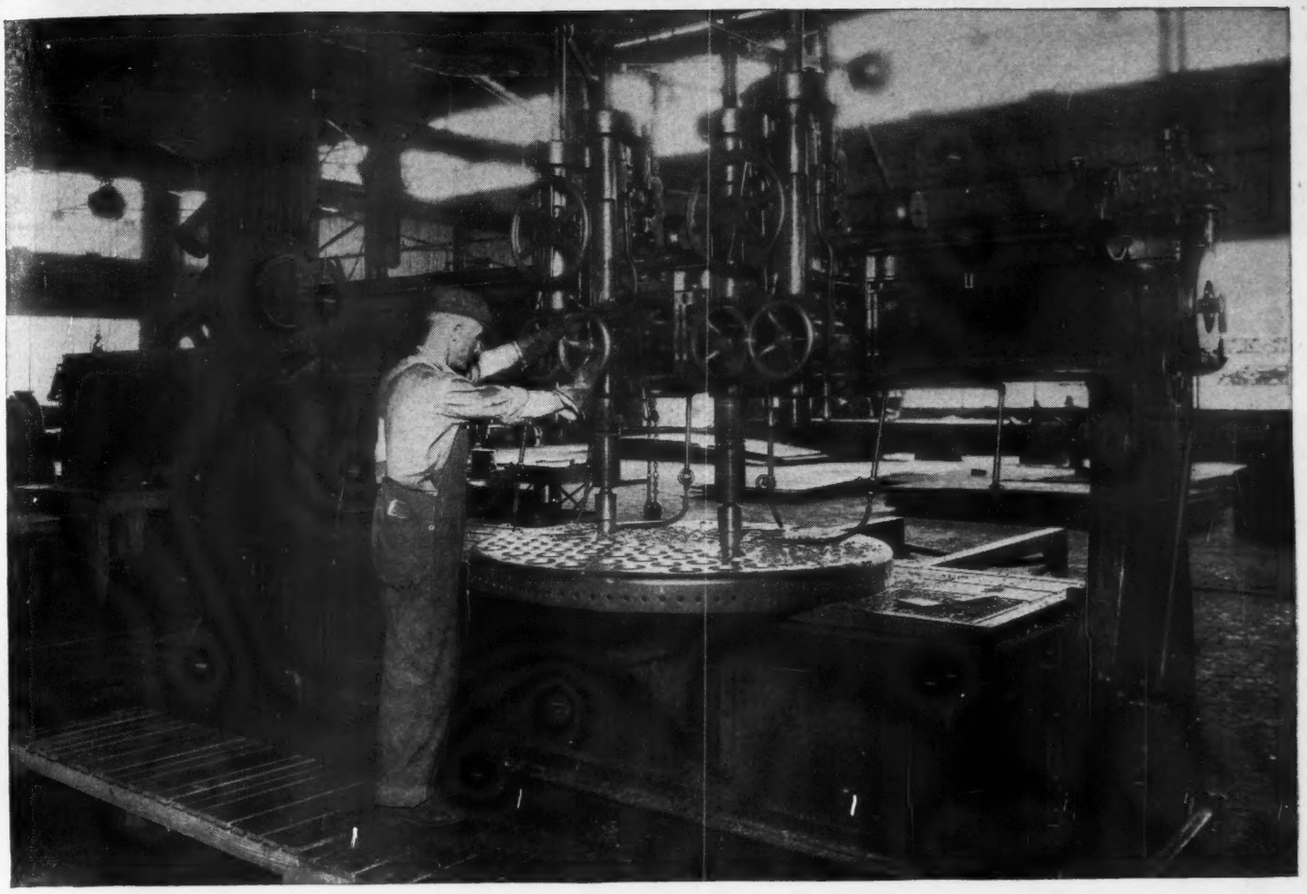
A limited number of Agencies available in key locations for domestic and foreign territories.



MODEL "S"

SILENT-FLAME MFG. CO., Inc.

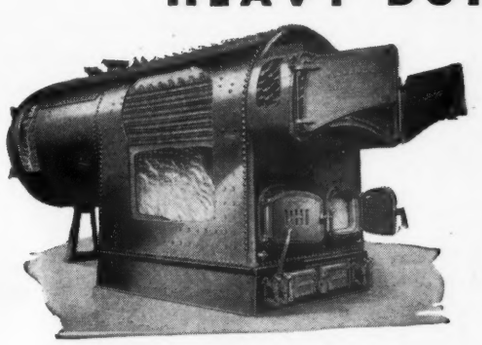
807 ZEREGA AVENUE . . . . . New York 61, N. Y.



"HAND TAILORED" OF STEEL

KEWANEE

HEAVY DUTY STEEL BOILERS



Working with the most modern machinery in America's outstanding steel boiler plant, skilled craftsmen "hand tailor" the finishing touches into Kewanee Boilers, giving them that top-degree-quality for which they have long been famous.

SBI
Reg. U. S. Pat. Off.
MEMBER

For OIL, GAS, STOKER, or HAND FIRED
10 to 304 H.P. . . . 100, 125 and 150 lbs. W.P.

ARMY E NAVY

KEWANEE BOILER CORPORATION
KEWANEE, ILLINOIS
Branches in 60 Cities—Eastern District Office: 40 West 40th Street, New York City 18
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

OVER 75 YEARS BOILERMAKERS

fueloil & oil heat

his headquarters at the company's San Francisco office. He has been with the company since 1935, and during the war worked with the Army in the design and installation of aircraft engine test cells, and is continuing that work with the Army and Navy today.

Gordon J. Wygant has been named assistant sales manager, Titeflex Inc., Newark, N. J., in which position he will assist in the sales and servicing of all company products, including all-metal flexible tubing and an industrial filter. He joined Titeflex in 1941 and during the war worked on application and servicing of radio shielding harnesses to military aircraft.

E. H. Wellemeyer has been elected vice president and director of Cities Service Oil Co. (Pa.). He previously was assistant manager of the export department of Cities Service Oil Co., and continues as director of Cities Service Refining Corp.

W E. Curran has been named general manager of Rheem Mfg. Co., and will continue to make his headquarters in New York. With Rheem since 1942, Mr. Curran is also a vice president and director.

Donald H. Jensen has joined Petroleum Heat & Power Co., Stamford, Conn., to organize expansion of the employee, consumer and public information program. He will function out of the Stamford plant, and will be active in eleven East Coast cities and in Chicago, where fueloil distribution terminals are located.

Mrs. Alice Holton has become publicity manager, Perfection Stove Co., Cleveland, Ohio. Serving under Norman E. Olds, advertising manager, she is the first woman to hold the post in the company's history. She has been on the staffs of the Columbus, Ohio *Dispatch*, *National Petroleum News* and publications for Oliver Corp., Chicago. During the past three years, Mrs. Holton has handled publicity for the Greater Cleveland Community Chest.

Robert M. Pettigrew has been named eastern district manager, Heating and Appliance Div., Evans Products Co., Plymouth, Mich. Mr. Pettigrew, who has been with Evans since 1943, will maintain offices at the main plant. His territory will include Michigan, Indiana, Kentucky, Tennessee (except Memphis), Pennsylvania, West Virginia, New York, and the New England states.

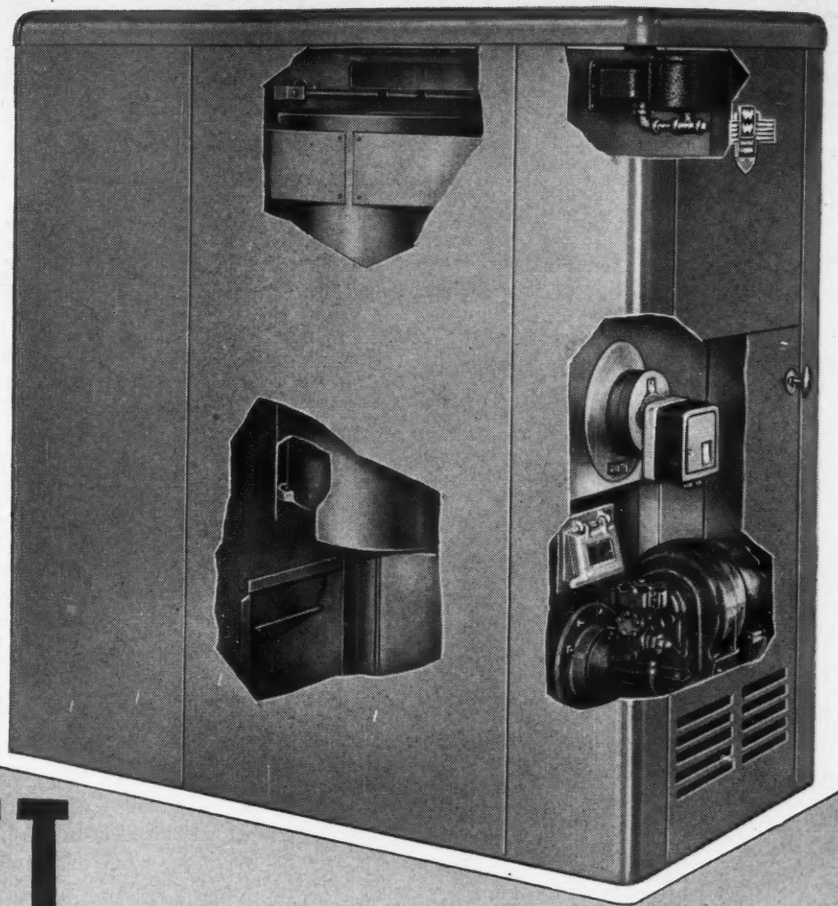
George F. Naumann has been named manager of the Edwardsville, Ill. plant, United States Radiator Corp., Detroit, Mich. He has held the position since the death of T. C. Hamlin, former manager, last summer. Mr. Naumann's appointment follows 31 years of service with the company.

Harry Files, formerly with Files Steam Specialties, Boston, has joined Wayne Home Equipment Co., Inc., Fort Wayne, Ind., as manager of the New England Sales Div., to handle details of Wayne Partnership Plan in six states. He joined Wayne, effective March 1.

Ronald Clinite as newly-appointed sales engineer, Sampsel Time Control, Inc., Spring Valley, Ill., will work in the field to assist representatives and manufacturers on technical engineering problems relative to automatic controls.

PRESENTING
New Savings in Furnace Construction and Maintenance through
B&W KAOCAST
A REAL 3000F REFRACTORY CASTABLE
• Use limit 3000F
• Melting point 3190F
• High spalling resistance
• Low volume change on initial firing
• Negligible reheat shrinkage
• Ease of application
—these are among the important properties which make B&W KAOCAST an outstanding castable for high temperature applications, ranging from the use limit of standard castables up to as high as 3000F.
B&W KAOCAST, which can be either rammed or poured into place, will effect significant savings in such uses as:
1. forming special shapes
2. furnace linings
3. car tops
4. patching brickwork
5. covering studs in water-cooled furnaces
For more information on this remarkable new development of B&W Refractories Research, send for the informative B&W KAOCAST Bulletin — or call your local B&W representative.
B&W KAOCAST
AN IMPORTANT STEP FORWARD
BABCOCK & WILCOX
R-282
BABCOCK & WILCOX
THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST, NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.
Water-Tube Boilers, for Stationary Power Plants, for Marine Service . . . Water-Cooled Furnaces . . . Superheaters . . . Economizers . . . Air Heaters . . . Pulverized-Coal Equipment . . . Chain-Grate Stokers . . . Oil, Gas and Multifuel Burners . . . Seamless and Welded Tubes and Pipe . . . Refractories . . . Process Equipment.

IT'S WHAT'S UNDER THE CASTING THAT COUNTS !



Waterbury

Oil Fired Air Conditioner

Whether you are installing a simple gravity job or the most complete air conditioner, it's what's under the casing that counts for your customer's satisfaction—and for a trouble-free sale for you.

A modern, compact, attractive unit, economical to buy—economical to operate. It is enclosed in an eye-appealing casing that is a compliment to the most modern basement—but what is equally important to you—because of the efficiency and quality of what is UNDER that casing, you are saved annoying service calls.

FURNACES FOR EVERY SIZE HOME AND EVERY TYPE FUEL— FROM GRAVITY MODELS TO COMPLETE AIR CONDITIONERS.

THE WATERMAN-WATERBURY COMPANY

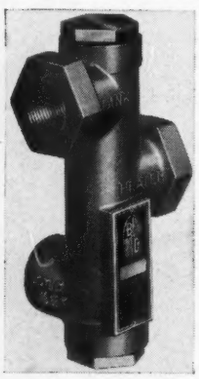
1171 JACKSON ST., N. E., MINNEAPOLIS 13, MINN.

fueloil & oil heat

New Products

Clean-A-Coil Valve Washes Indirect Hot Water Heaters

BELL & GOSSETT CO., Chicago, has announced the Clean-A-Coil valve to keep heater coils free of sediment and lime. Every time a hot water faucet is opened the valve automatically back-washes the heater coils.



When all faucets are closed the water circulates in the usual manner, from the heater to the tank and back again to the heater. When any hot water faucet is opened, the operation of the Clean-A-Coil valve causes the water to reverse its flow. Cold water enters through the valve, flows through the heater in the direction opposite to normal and into the tank. The back-wash flow is more turbulent than the normal flow and the scrubbing action cleans out sediment.

It is recommended for side-arm direct fired heaters, since the sudden change in water temperature in the coils causes the coils to contract sufficiently to crack off lime that may have hardened on the walls of the tubes.

Honeywell Announces New Mercury Switch

A NEW MERCURY SWITCH, capable of handling almost any switching job, has been developed by the Minneapolis-Honeywell Regulator Company. It is identified by the model number AS-408D.

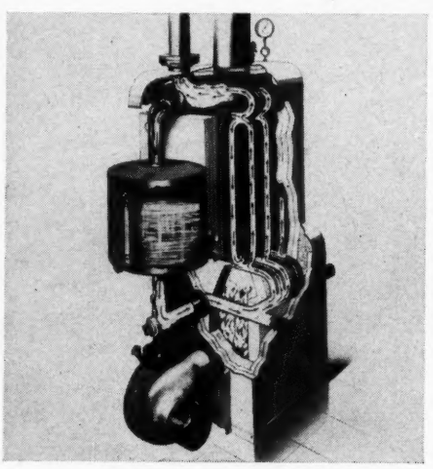
Less than an inch and a half long, the new switch is rated at one ampere for 115 volts, A.C. Simple in design, dependable and economical in cost, it will save space in switch action mechanisms. The new device, one of several hundred different models made by Honeywell, is actuated by a snap tilt of 12 degrees using a single pole, single throw action.

Production on the new switch has been started and large-scale deliveries scheduled for later in the spring.

Steel Tube Boiler Unit For Domestic Heating

THE MOREHEAT CORP., Lansing, Mich., has announced a series of nine steel tube boilers for domestic and commercial heating. Vertical seamless steel water tubes are arranged and interconnected to permit high velocity water movement in the boiler. From arched tubes over the firebox the tubes run to the steam dome. The units are supplied with gun type oilburners, but can be fired with gas.

Capacities range from 701 sq. ft. to 4170 sq. ft. of steam (EDR), and are

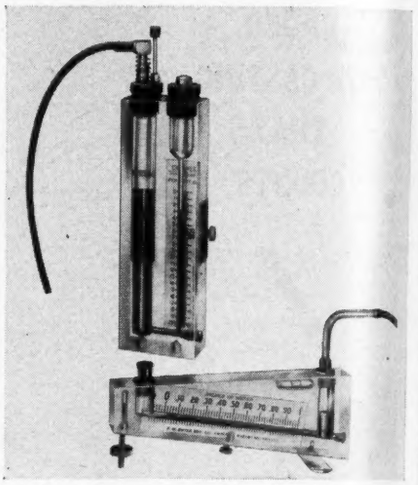


recommended to be fired at 1.65 to 9.5 gph. An instantaneous water heater is built into the balancing tank which maintains a constant level of water in the tubes.

New Line of Instruments Developed by F. W. Dwyer

A NEW LINE of combustion testing instruments including portable and stationary transparent CO_2 Indicators, Draft Gages, Manometers and accessories, has been developed by the F. W. Dwyer Mfg. Co., Chicago 12, Ill. Among the newly designed instruments are the Model 800 Transparent CO_2 Indicator and the Model 100 Draft Gage, both of which are portable, and offered with various accessories as needed by the individual operator.

The Transparent CO_2 Indicator body consists of a solid block of strong, clear plastic which remains permanently unaffected by the bright red indicating solution. With no glass used at all, and all metal parts being of stainless steel, the instrument is said to be virtually unbreakable.



The Portable Draft Gage, also of transparent plastic measures all types of air velocities, drafts, and slight pressure changes. Light is admitted from all sides, leaving every part completely visible. Scale graduations extend a full five inches, with more than an inch of sliding adjustment. Draft indication is said to be continuous and all fluctuations may be observed while adjustments are made.

Oil-Fired Dehydrator Prevents Feed Spoilage

YORK-SHIPLEY, INC., York, Pa., has announced a new application for oilfired equipment; a farm-size dehydrator. This dehydrator makes it possible for farmers

to dry and store perishable farm feed products which would otherwise spoil.

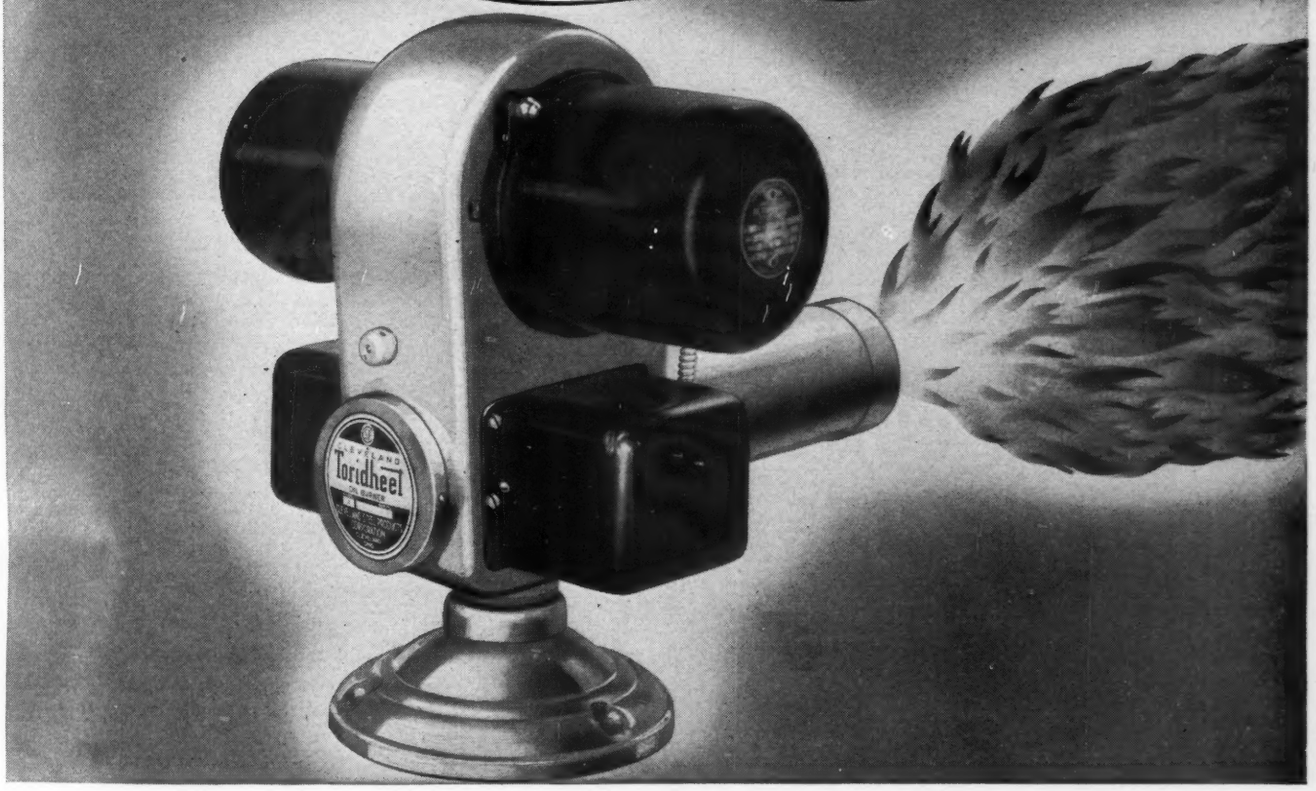
"The Challenger" dehydrator is manufactured by J. B. Beaird Company, Inc., Shreveport, La., and is fired by a York-

CLEVELAND

Toridheet

OIL BURNERS

MODEL J **GUN TYPE**



First Gun Burner to Feature a

PRESSED STEEL BODY

First streamlined pressure atomizer burner with no exposed parts, its body is made of heavy gauge deep drawn, ductile steel. Strong, tough and unbreakable, it has the necessary rigidity to keep motor shafts always in perfect alignment.

Weighs approximately 92 pounds. Can be easily handled by one man. The steel body may get dented by extraordinarily rough usage but it will never crack or break. Saves freight, saves manpower.

Toridheet Model J features amazing quietness and economy.

A complete packaged-unit, adaptable to M-H Electronic, Mercoid Visaflame or conventional controls.

Available to present Toridheet accounts about May 1st. Sorry, but newcomers will have to wait until third or possibly fourth quarter of 1947.

TORIDHEET DIVISION

CLEVELAND STEEL PRODUCTS CORPORATION, CLEVELAND 2, OHIO

Affiliated Canadian Manufacturers: Conroy Manufacturing Company, Ltd., Catharine St., St. Catharines, Ont.

OIL BURNERS • OIL BURNER BOILERS • OIL WATER HEATERS
AIR CONDITIONING UNITS • COAL AND GAS FURNACES

fueloil & oil heat

Shipley industrial-type rotary burner using heavy fueloil. The drying is done in a long revolving cylindrical drum through which the furnace heat is drawn by an exhaust blower. The raw product is fed into a hopper near floor level and is conveyed to the shredder, where revolving corrugated knives cut it up and feed it into the upper end of the dehydrator drum. The revolving drum feeds the drying products gradually to the separator at the outlet end where they are ejected for cooling, sacking and storage.

Electric Instrument Measures Low Air Velocities in Ducts

HASTINGS INSTRUMENT CO., Hampton, Va., is introducing an air velocity meter which will measure accurately air velocities as low as five feet per minute. The Air Meter is applicable to the measurement of velocities in ducts, the measurement of wind velocities, the measurement of flow in air and gas lines, and surveys of heating and air conditioning systems.

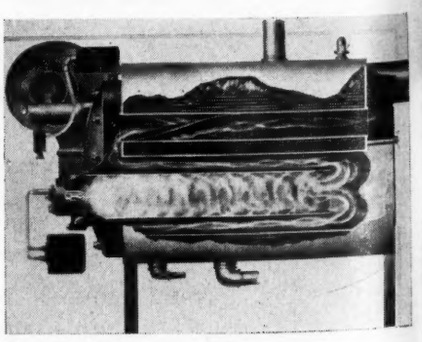
The pickup element is a noble-metal thermopile which is placed in the air

stream. Alternate junctions are arranged to have much greater cooling than the adjacent junctions which are heated by passing alternating current through the wire. The temperature rise of the warmer junctions is measured by the DC thermo-electric voltage generated.

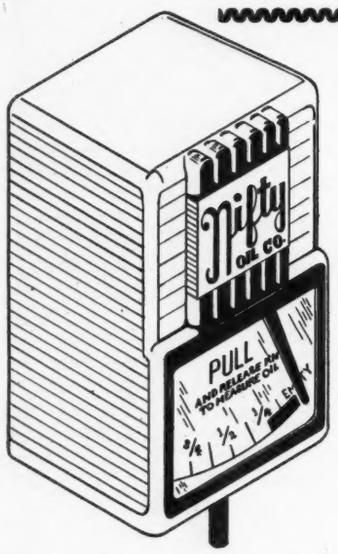
This instrument operates from 110 volts AC power that may be obtained either from the house wiring or from a portable power pack that is battery operated. The instrument may be adapted for remote indication of velocity or flow of air or other gases. The output is suitable for operating standard strip or circular chart electrical recording instruments.

Whirl-O-Magic Oil Unit Is Completely Packaged

A SCOTCH MARINE type domestic oilfired boiler unit with stainless steel combustion



chamber and fire tubes has been announced as the Whirl-O-Magic by Persiro Mfg. Corp., Newark, N. J., and marketed by the Persiro Sales Corp., Newark 5, N. J. The unit, completely packaged and ready for installation on the job, is being offered in three sizes with a range



The TANK GAGE COMES OUT OF THE CELLAR

Even For Inside Tanks!

Fuel-O-Meter will show Mr. Homeowner how much oil there is in his tank and show him *right alongside of his thermostat* where he is sure to see it. No excuse for running out of oil, because he forgot to look at the gage in the cellar. Fuel-O-Meter, mounted anywhere *upstairs*, tells in an instant the amount of oil in the tank. The easily read dial is graduated in eighths.

Fuel-O-Meter operates on the same hydrostatic principle used by the more expensive, but clumsy, distant reading gages, and is just as accurate. Fuel-O-Meter is small. It is not much larger than a thermostat and is just as handsome. Mrs. Homeowner will like its looks too.

Fuel-O-Meter is easy to install, too. The ⅛" copper tube, which connects it to the tank, can be concealed in the wall as easily as thermostat wire. (It doesn't have to be installed upstairs if your customer wants it elsewhere.)

Fuel-O-Meter is designed so that YOUR name can become an integral part of the gage, at slight extra cost.

Name plate with YOUR name reminds him *where* to order oil. Furnished Free on orders of 100.

Fuel-O-Meter is as modern as Jet propulsion—Equip every job with this handsome, compact and accurate instrument for profit and satisfaction.

Available for inside and outside tanks 42"—44" and 48" depths.

Costs Less than comparable gages. Send for complete description.

SID HARVEY INC.
VALLEY STREAM, NEW YORK

IN PHILADELPHIA
Sid Harvey of Pa., Inc.
1520 South 57th Street (43)
Branch: 521 W. Lindley Ave.

IN NEWARK
Sid Harvey of N. J., Inc.
103 Lindsley Avenue

IN BOSTON
Sid Harvey of Mass., Inc.
566 Cambridge Street
(Allston Station)

See what's new in warm-air furnaces at our booth at the International Heating & Ventilating Show in Cleveland-Jan. 27-31.
GAS FIRED
FOR WINTER AIR
CONDITIONING
FOR BEAUTY AS WELL AS FOR BTU'S
For clients who want more than heat from a furnace, architects and builders chose MOR-SUN. . .
The winter air-conditioning furnace that's at home in the most resplendent rumpus room or cellar bar. . .
The factory-assembled packaged furnace whose installation is negligible and whose long life service is guaranteed. . .
The pressed steel furnace that heats, conditions, circulates, filters, humidifies and continuously renews the air. . .
The furnace, in short, for the home owner who wants more than heat!
MOR-SUN
MORRISON STEEL PRODUCTS, Inc., BUFFALO 7, N. Y.
Morrison's nationwide dealer organization is at your Service. Write us for the address of our representative nearest you.
"The Sun Never Sets with MOR-SUN!"

Here's how we're promoting your furnace . . . the MOR-SUN *to* ARCHITECTS *and* BUILDERS

Colorful advertisements are promoting your furnaces to your architects and your builders in full pages in Architectural Forum, Architectural Record, Progressive Architecture, American Builder, Practical Builder, Building Supply News.

What does that mean to you? It means that that's one more reason why the MOR-SUN line of pressed steel furnaces is easier for you to sell to present and potential home owners--to those influenced by either architect or builder or both.

Yes, the MOR-SUN delivers both BEAUTY AND BTU's . . . and more profits for you!

MOR-SUN
PRESSED STEEL FURNACES

The Sun Never Sets with MOR-SUN!"

MORRISON STEEL PRODUCTS, INC.

BUFFALO 7, NEW YORK

of capacity from 335 to 670 sq. ft. of steam.

Oil of domestic heating grade is fired at .85 to 1.75 gph into a cylindrical stainless steel combustion chamber. Combustion gases are returned to the front of the boiler around the chamber and pass back through stainless tubes to the smoke outlet. Cabinet height is 32 ins. and the width is 24 ins. Overall lengths for the three sizes are 42, 46 and 52 ins. Hot water capacity is 300, 350 and 400 gph at 135°. The boiler is built to ASME Code.

Davis Leak Detector For Vacuum Systems

DAVIS EMERGENCY EQUIPMENT CO., Newark 4, N. J., announces the development of a new, sensitive instrument for detection and location of leaks in vacuum systems. It eliminates the need for shutting down vacuum systems in order to detect a leak, and it enables anyone, who can read the dial, to locate the leak.

A heated wire, housed in a metal chamber, is part of a Wheatstone Bridge circuit. When a vacuum is pulled on the

chamber, the filament becomes slightly chilled, upsetting the balance of the Wheatstone Bridge and causing a needle to rise on the scale of the meter.

It is claimed that this instrument will register a leak as small as the equivalent of .006" water, which causes a 1/8" deflection of the needle on the scale. It is claimed further that this new Davis instrument can be used equally well in the detection of leaks when checking welded seams or joints on equipment under pressure. The Davis Vacuum Leak Detector is a portable battery operated unit housed in a steel case measuring 3¼" x 4½" x 7½". It is furnished with a short tube having a rubber suction cup on the end to be applied at the point of detection. This tube is connected to the instrument and when the rubber suction cup covers a leak, the needle on the meter rises.

Clamp-Master Kit for Hose and General Repairs

A NEW CLAMP-MASTER KIT that provides a simple, easy and inexpensive method of clamping, splicing, tying, mending and

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Mobilheat

Mobilheat

In this case familiarity breeds Content

Mobilheat The more people know about a product, the more confidence they have in it—even *before* buying. And the more widely accepted that product is among other consumers, the more likely *new* customers are to accept it, too.

This is particularly true of products people buy *continuously*. In such cases, consumers can't afford to experiment. They must be sure they're getting top value!

That's why they go for a well-known, well-publicized, well-advertised brand like Mobilheat. The public has read about it—knows its quality story—has made it one of America's largest-selling fuel oil brands!

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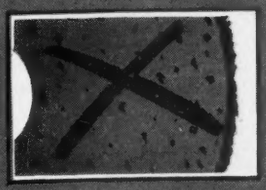
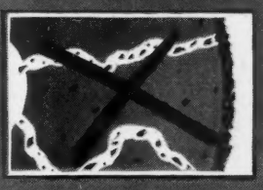
SOCONY-VACUUM HEATING OIL

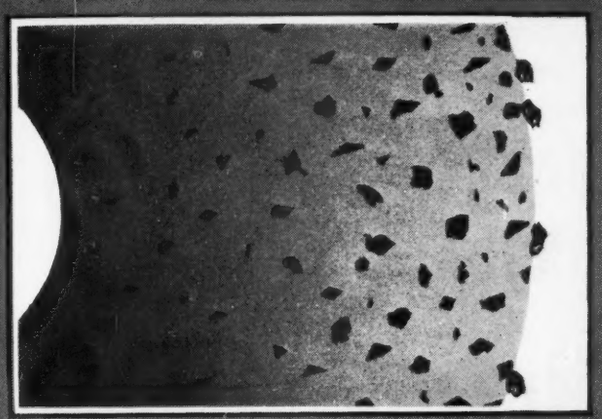
SOCONY-VACUUM OIL COMPANY, INC.

New Micronic Filter Principle Makes Good News to Oil Burner Users





Other depth-type filter elements are susceptible to surface loading and channeling. Minimum openings on pressure side cause dirt accumulation on surface — element clogs before filling. Uncontrolled distribution of filter media in element permits fluid to find channels, passing solids larger than specified.



Cross-section of MICRO-KLEAN oil burner filter cartridge. A newly-developed method of "felting" and impregnating micronic fibres creates a fibre distribution which increases in density in direction of flow. Spaces between fibres become progressively smaller and more numerous approaching discharge surface. Graded Density in Depth eliminates surface-loading, permits more solids of all sizes to be collected within the element. Resinous Impregnation bonds each fibre in position, preserving original fibre distribution, giving absolute protection against channeling, rupturing, shrinking, distortion.

CUNO MICRO-KLEAN Oil Burner Filter...

NEW Specially Designed ...Available Now!

Model ICI Cuno MICRO-KLEAN Oil Burner Filter. Strong lightweight aluminum housing quickly disassembled for cartridge replacement by removing single cap nut.

Investigations by oil burner manufacturers show that the new Cuno MICRO-KLEAN Oil Burner Filter provides the most efficient, lowest-cost protection for burner nozzles against micronic particles, rust and water in the fuel.

Exclusive construction features help the MICRO-KLEAN element to remove *more* of the smaller particles. (See above.) Channeling, which would permit foreign matter to pass through the filter, is positively prevented; and so is surface-loading, which would prematurely clog the element.

Model ICI is expressly designed for oil burner service. Standard replacement cartridges will also fit many other oil burner filters already installed.

CUNO

Fluid Conditioning

REMOVES MORE SIZES OF SOLIDS FROM MORE TYPES OF FLUIDS

Cuno MICRO-KLEAN Oil Burner Filters and replaceable cartridges are manufactured by the company whose filters are used more often in industry than any other brand.

Send Coupon for Information on Micro-Klean Filters.

Cuno Engineering Corporation,
851 South Vine St., Meriden, Conn.

Please have nearest Cuno representative provide information about Cuno MICRO-KLEAN Oil Burner Filters and replacement cartridges.

Name.....Title.....

Company.....

Address.....

fueloil & oil heat

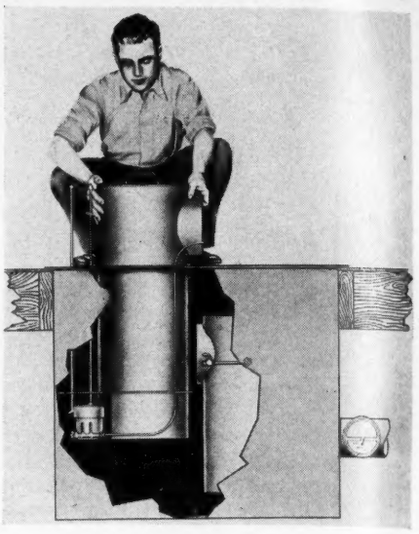
banding has been developed by the Punch-Lok Co., Chicago 7, Ill. It contains a Clamp-Master tool for tensioning and locking all Clamps, 31 flat strip steel clamps of assorted sizes, and 14 open end clamps for use where the ends of the object to be clamped are obstructed.

The Clamp-Master Kit is ideal for hose clamping high or low pressures, maintenance of a general nature and miscellaneous repairs such as splits or breaks in pipes, posts, ladder rails, shovel handles or other similar items. Repairs of this type can be made in a few minutes on round, square or oblong objects from ½" to 10" in diameter.

Gillen Floor Furnace Serviced From Floor Level

A NEW AUTOMATIC oilburning floor furnace designed for small home installations has recently been introduced by the J. L. Gillen Co., Dowagiac, Mich.

Features of the new furnace are said to include an exclusive connection arrangement between the combustion chamber



and the heat exchanger which permits normal servicing from the floor level. The furnace is also equipped with a new, improved burner that operates cleanly on low natural draft with resultant economies, according to the manufacturer.

Of compact design, the new furnace has an overall height of 41¾ in. with a non-corrosive galvanized outer casing measuring 36-3/16 in. long, 24-3/16 in. wide, and 33¼ in. deep. Shipping weight is approximately 190 pounds.

The new furnace operates on No. 1 fueloil or kerosene, according to the manufacturer, and has an output of 50,000 B.T.U. Maximum oil flow is set at ½ gallon per hour with a pilot flow rate of 4 c.c. of oil per minute.

Perma-Life Boiler Unit In Eight Oilfired Sizes

ZAMBELLI BOILER WORKS, Philadelphia 25, Pa., has announced eight sizes of its Perma-Life oilfired boiler unit ranging from 290 to 2750 sq. ft. of steam. Units are all steel fire tube type with built-in instantaneous water heater. The firing unit is a gun type burner of conventional design.

Combustion space is ¼ in. steel with heavy gauge large fire tubes. The burner is placed at the rear. Gases pass forward to a fire chamber and back to the smoke outlet through steel firetubes. Removal of an asbestos-lined plate over the front of the fire chamber exposes all heating surfaces for cleaning and inspection.

The units are 45 ins. to the top of the insulated jacket and 25 ins. wide. Lengths range from 50 to 74 ins.

CLEAN!
DEPENDABLE!
ECONOMICAL!

OIL HEAT

BEATS GAS COMPETITION

Clean up Oil Burner Systems that are giving trouble with carbon deposits, causing oil odors and irritating neighbors with oily soot and noxious fumes. Use KLEEN-FLO to clear smoky oil fires —reduce carbon deposits—keep oil lines and storage tank CLEAN.

KLEEN-FLO cuts service work, reduces call-backs, keeps customers satisfied, gets new customers and increases fuel oil sales. Try KLEEN-FLO on one of your tough service calls and see the difference.

COMBUSTION UTILITIES CORPORATION
1451 BROADWAY NEW YORK 18, N. Y.

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New England Distributor
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West Coast Distributor
DIAMOND OIL CO., INC.
550 Bauchet St., Los Angeles 54, Calif.

comfort machine!

Quality-made in every detail, the new Quiet May oil burner is one of the world's most efficient, most dependable "comfort machines." Most wanted, too—after years of war-compelled absence. Quiet May dealerships are now open in some territories. Inquiries invited.

QUIET MAY OIL BURNER

MAY OIL BURNER

division of GEROTOR MAY CORPORATION

Maryland Avenue and Oliver Street

Baltimore 3, Maryland

Fueloil & oil heat

Liquid Rust Remover

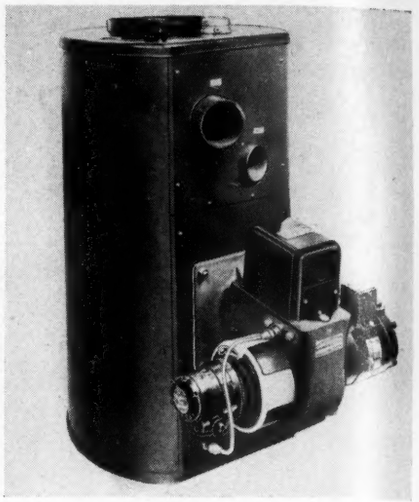
A LIQUID RUST REMOVER produced by Allied Products Co., Chicago 13, is marketed under the name CorOdex. Claims for the new rust remover are that it is effective on any metal surface, that it will remove even the thickest coat of rust, that it is so penetrating it reaches pin point spots, pits, crevices, cracks or corners and that it can be applied in a minimum of time with a paint brush or cotton swab.

Other claims for CorOdex are that it requires no rubbing, is non-explosive, non-inflammable, and will not injure metal or the hands of the user. Small rust-coated objects may be treated by dipping the articles in a glass, jar or crock of CorOdex.

Another big feature, say its makers, is that CorOdex removes all rust from any surface without changing the contour or shape of the article treated.

Briggs Hot Water Boilers Fired with Oil or Gasburner

A SMALL NEW UNIT for hot water heating that can be fired with oil or gas has been

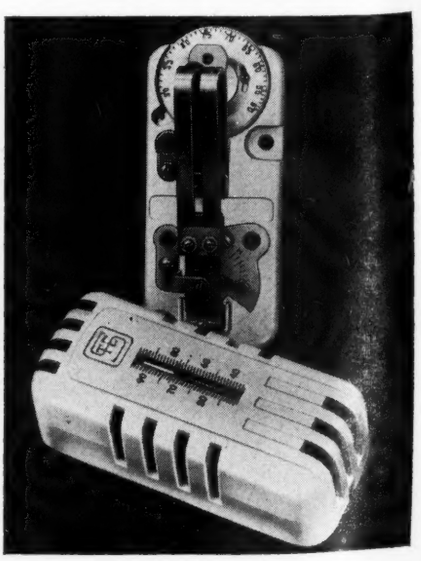


announced by the Briggs Filtration Co., Bethesda 14, Md. The larger of two units is recommended to be fired at .75 gph and is rated at 510 sq. ft. of water radiation (EDR).

The unit is of steel and small in size: 30 ins. high and 18 ins. wide. The larger side weighs little more than 200 lbs. and is claimed to be easy to handle in installation. A gun type burner fires into a stainless steel combustion chamber. The boiler is claimed to have "super-heat-syphonic and percolator action" which speeds the flow of water over the heating surfaces.

Line Voltage Thermostat

A HEAVY DUTY line voltage thermostat has been announced by Sampsel Time Control, Inc., Spring Valley, Ill. This thermostat has an electrical rating of 2000 watts, 115 Volts A.C.; 60 cycle single phase, non-inductive load, or ½ h.p.; 115 Volts A.C.; Repulsion Induction Motor. The range is 50°-90° F., with a 2° normal

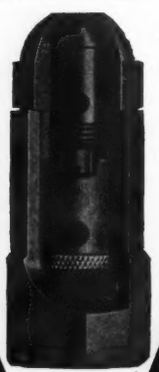


"MONARCH" NOZZLES - - PREFERRED BECAUSE:

1. Capacities and spray characteristics are *uniform.* Each nozzle is *individually* spray tested and checked for capacity against the flow of a calibrated master sample and capacity tolerances are as low as plus or minus 2½%.

2. Standard nozzles will fire most gun type high pressure burners, satisfactorily, but special series are also available for burners requiring nozzles with specified spray characteristics.

3. For twenty years "Monarch" has pioneered most major oil burner nozzle improvements.



Air Cones & Stabilizers

Monarch air cone and stabilizer combinations have made thousands of old burners more efficient and are used as original equipment by many burner manufacturers. Their use in combination is really your assurance of satisfactory performance, because every size and style has been thoroughly fire tested in laboratory or field over a period of many years. Eliminate guess work. Use tried and tested equipment.

Replacement Valves

Monarch piston type pressure regulating and cut-off valves are available in several models to suit most replacement needs. G-49 valves can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode.

Write for Catalog D

MONARCH MFG. WORKS, INC.

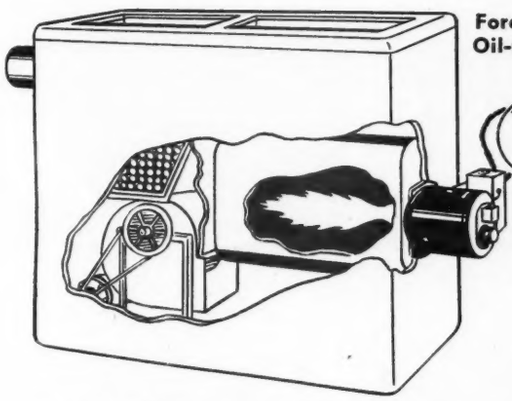
EAST WESTMORELAND AND SALMON STS.

PHILADELPHIA 34 PENNA.

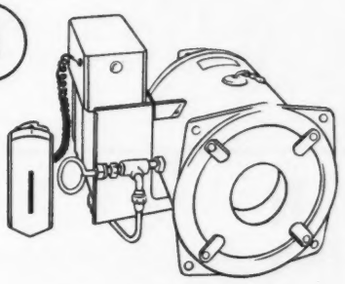
HEATING PLANT MANUFACTURERS:

THE BREESE
HORIZONTAL OIL BURNER

ENABLES YOU TO DESIGN SMALLER, LOW-COST, EFFICIENT HEATING PLANTS

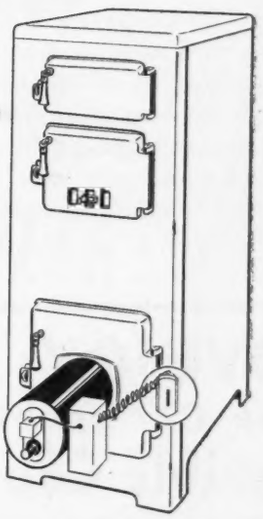


Forced-air furnace
Oil-fired by Breese



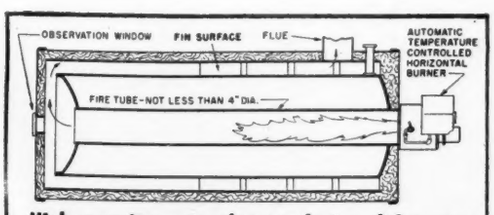
Automatic Model with
Thermostatic control

Heating boiler
Oil-fired by Breese



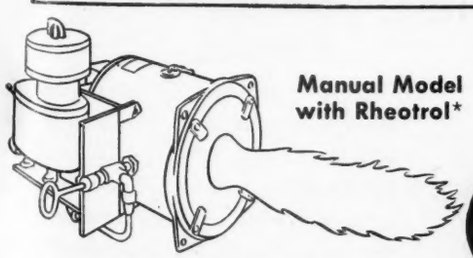
The highly efficient firing rate of the Breese Burner (½ to ⅔ gph) means that now it is no longer necessary to design your heating plants for burners of higher capacity.

The slim, horsetail-shaped flame of the Breese Burner permits you to use smaller combustion chambers.



High capacity water heater designed for use with Breese Horizontal Burner.

The Breese Horizontal Burner also makes possible the use of inexpensive, high-capacity water heaters for both domestic and commercial use. Write today for descriptive literature and technical data on these and many other applications for this modern vaporizing oil burner. We will be pleased to work with you on your developments.



Manual Model
with Rheotrol*

Distributors and Dealers—The Breese Horizontal Burner is also available as a conversion unit for these and many other applications.

*Trade Mark Reg. U. S. Pat. Off.

OIL DEVICES
341 EAST OHIO STREET • CHICAGO 11, ILLINOIS

RESEARCH AND ENGINEERING • SANTA FE, NEW MEXICO

differential. It is adjustable for narrower or wider operation if desired.

The thermostat has been created to meet a demand for simple thermostatic control of unit heaters, electric wall heaters and furnaces or for any use where a heavier electrical rating than the standard S-26 (1300 watts) is needed.

Adhesive Underwriters Labels

A SELF-ADHESIVE Kum-Kleen Label for carrying the "UL" approval of the Underwriters' Laboratories sticks permanently to any smooth surface despite intense heat, cold or humidity, yet is easily peeled off without marring the surface, according to the manufacturer, Avery Adhesive Label Corp., Pasadena 1, Calif.

These labels, themselves, have the full approval of the Underwriters' Laboratories. They are designed to eliminate decals, name-plates, die-casting and other methods for displaying such information. Unlike water-gum labels and string tags, they will not pop off or rip off.

Kum-Kleen Approval Labels are seven-eighths of an inch in diameter and are printed in red, yellow and black. They are also available in a self-destroying type that overcomes the danger of the Underwriters' Laboratories' approval being removed from the genuine product and being placed on substitute merchandise. Though this self-destroying label still peels off easily, its re-use is prevented by invisible die-cuts that cause it to come off in segments.

Nozzle *for domestic burners by Ace Co-operating Engineers, Chicago, in conventional sizes and angles.*

Book Is War History Of District Two Oil

"MEN, OIL, AND WAR," a 360-page book telling the story of the work oil men of the Midwest did to help win the war, is announced by O. D. Donnell, Ohio oilman who served as chairman of the industry's general committee for District Two.

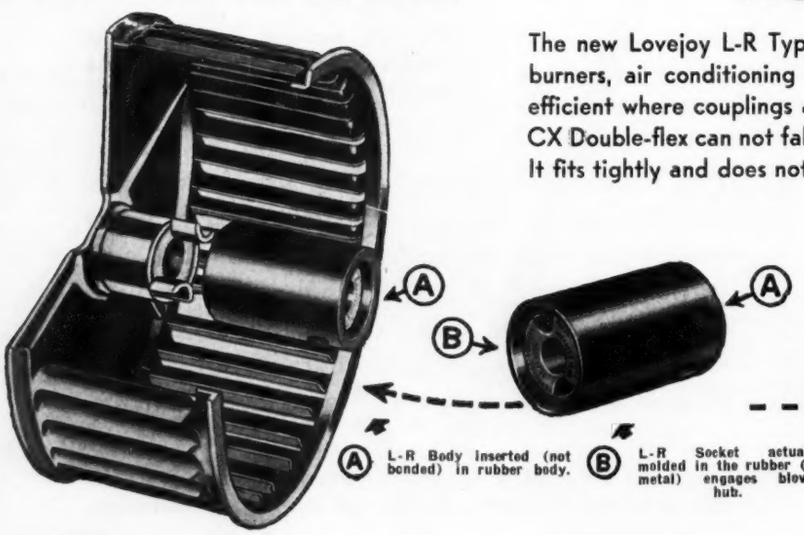
The book originated with a request from the government for a report which might serve as a guide in any future emergency and cut short the time needed to organize the production and supplying of oil products. The writing task was turned over to an experienced author, D. Thomas Curtin. Out of his work and the cooperation of members of the Committee has emerged a graphic description of the performance by the oil fraternity in fifteen midwestern states in furnishing petroleum products to the armed forces and keeping the essential civilian needs supplied.

Copies of the book are distributed to committee members, the press, libraries, oil industry leaders, and representatives of federal and state governments.

LOVEJOY L-R
Type CX Double-flex
Flexible Coupling

— — here's what it is:

The new Lovejoy L-R Type CX Double-flex is a better coupling for oil burners, air conditioning units and other installations; but particularly efficient where couplings are located in the dark or close quarters. The CX Double-flex can not fall off when blower and pump units are serviced. It fits tightly and does not rattle.



--here's what it does:

Positive correction of misalignment, shock, surge, backlash, etc. is achieved with the Lovejoy L-R Type CX Double-flex flexible coupling. Oil heating and air conditioning engineers and servicemen say it is quickly assembled and easily installed.

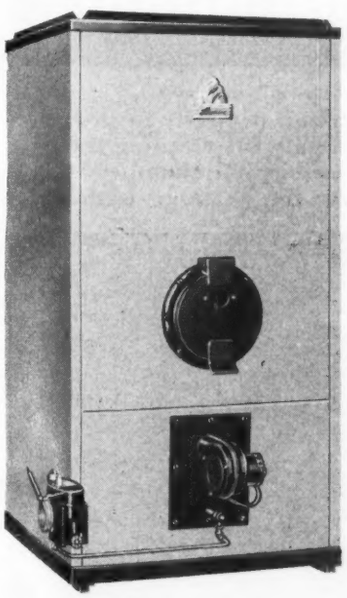
Get all the details in Bulletin 520

OHI

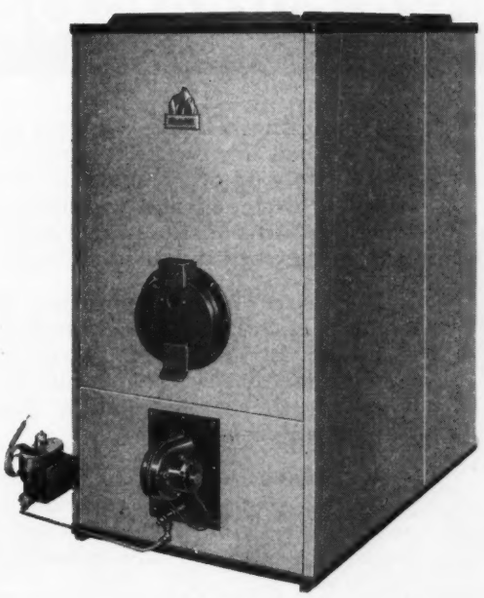
LOVEJOY FLEXIBLE COUPLING CO.
5012 W. Lake Street • Chicago 44, Ill.

ANNOUNCING Luxaire's NEW Vaporizing Pot-type OIL FIRED UNITS

Oil Fired, Steel,
Utility Air Conditioning Unit



Oil Fired, Steel
Gravity Unit



Oil Fired, Steel
Air Conditioning Unit

Another distinctive Luxaire line—the new 1947 Vaporizing Pot-Type oil-fired Units — a Basement Forced Air Unit . . . a Gravity Unit . . . a Utility Forced Air Unit.

Smartly styled, baked enamel cabinets . . . New, steel combustion chamber with automatic, submerged, arc-welded seams . . . Heat absorbing radiation shield . . . Forced draft combustion . . . and the amazingly easy installation or removal of the complete burner assembly without dismantling heating element or cabinet—make Luxaire the outstanding line in vaporizing, pot-type oil-fired equipment.

Write for complete information today

THE C·A·OLSEN MANUFACTURING COMPANY

Luxaire HEATING & AIR CONDITIONING UNITS

ELYRIA 12. OHIO

fueloil & oil heat

Cooperating For The Future

(*Continued from page 63*)

amounted to 98 million barrels in 1946, an increase of 17.5 per cent over 1945 and almost 33 per cent higher than the 1941 figures. Kerosene was the first product to be refined from crude oil. At one time it was the mainstay of the oil business, and while other fuels have increased in importance, kerosene is still a major product.

In spite of the predictions that kerosene is a dead duck, kerosene, like Old Man River, just keeps rollin' along.

The demand for kerosene should increase from the 1946 level of 98 million barrels to 112 million barrels in 1947 and reach a peak of perhaps 114 million barrels in 1948. After that—contrary to the opinions of others in the oil industry—we expect kerosene to level off. The oil industry will be able to meet these requirements.

The demand for heating oil, by which I mean the fuel the average householder buys for his oilburner, and which the trade refers to as #2 Fuel Oil, is likely to continue its impressive growth for some time to come. Domestic consumption, as a result of new installations, may rise to as high as 202 million barrels annually within the next five years. Expansion after 1951 is expected to be much more modest than in the 1946-51 period. The expansion of domestic oilburner installations will no doubt slacken as the industry moves nearer to maturity, and the average heating oil demand per burner can be expected to decline as a result of improved type burners and fuel, and construction of smaller and better insulated homes.

Many things, including heating oil, can be made from a barrel of crude, and a refiner will normally manufacture those products which give him the greatest overall return from the crude run. Heating oil, as one of the so-called "middle fractions" of the crude, is related closely to the other middle fractions — kerosene and diesel oil. Middle fractions also provide the feed stock which is cracked into gasoline.

In other words, heating oil actually competes with the other middle fractions and with gasoline. Refiners are not inclined to make heating oil if they can crack it into gasoline and sell it at a better realization.

I do not mean that there must be any radical price increase before refiners will make heating oil in the amounts which we estimate will be required in the future. In the opinion of my company, the price relationship in Districts 1 and 3 this season, until the break in New York prices, was such as to encourage maximum production of heating oil. Obviously it is essential, if demands are to be met in the future, that the price relationship between heating oil and gasoline be such as to encourage the production of heating oil in adequate quantities.

Future scientific developments will eventually contribute to the volume of heating oil produced in this country by creating a means of increasing the amounts of both gasoline and heating oil which can be produced from a barrel of crude oil. Petroleum scientists have assured me that trends in refining processes and development will be in the direction of increasing the "center cut" of the crude oil. In other words, there will be less heavy prod-

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As you know, boiler controls cannot function properly to produce a clean fire that will eliminate the necessity for cleaning the stack, safety or other controls unless the combustion chamber is correctly designed and installed. And unless the chamber is the right size oil consumption can be increased greatly due to inefficiency.

To insure better operation of burners, install an R&I Combustion Chamber. It can be set up round, rectangular or pear shape and fastened together with bonding clips without any cement.

Everything needed for a complete job, including cement, is packed in a strong carton. No loose pieces to get lost, broken or mixed.

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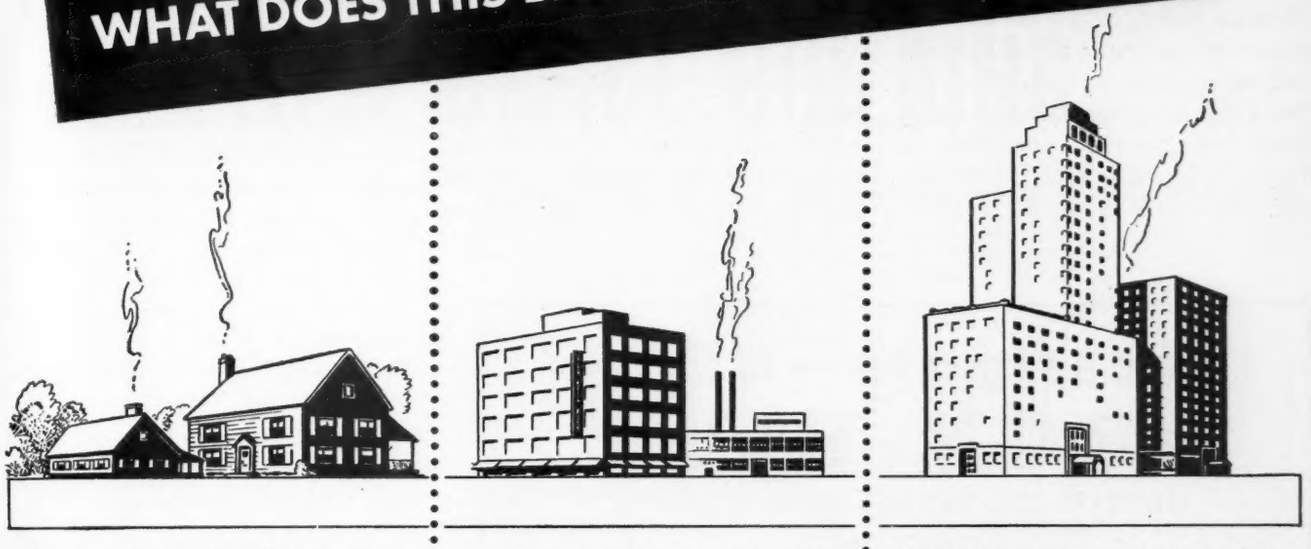

One and Two Family Houses
$2 BILLION* A YEAR

Factories, Stores and other Non-residential Buildings
$2 BILLION A YEAR

Apartments and Hotels
$1 BILLION A YEAR

*SOURCE: Dodge Reports: Estimated Yearly Construction 1947 to 1957

You've heard plenty about the "backlog of construction" shown here. But did you ever stop to think what it means to *you?* According to recognized authorities, the construction industry will erect new buildings to the significant total of five billion dollars in each of the next ten years. Part of this unprecedented backlog lies in *your* area.

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fueloil & oil heat

ucts left over after distillation and cracking, and more gasoline and middle fractions will be made. Some of the middle fractions will undoubtedly be cracked into gasoline, but enough should be available to increase the overall output of heating oil in line with increasing demands.

Residual fueloil, or #6 oil, the third main category of oils for heating, presents a somewhat different picture than the others I have mentioned. Developments in refinery techniques and particularly in catalytic cracking have made it possible to obtain more and more gasoline and middle fractions from a barrel of crude oil. As a result, there is a reduction in the amount of residual or heavy fueloil, and it is not economical for American refiners to run crude oil to produce heavy fuel.

The present yield of residual fuel is about 25 per cent on crude, and it may go below 20 per cent in the next ten years.

You can get an idea of how much this means today when I tell you that a decreased yield of fueloil of one per cent is equal to 18 million barrels a year, and therefore a five per cent reduction in residual on the preesnt crude runs means that 90 million barrels of lighter fractions could be made available.

There are a few factors which may supplement domestic residual supplies, however, after the next two or three critical years. The main one is that, although it is not economical for American refineries to run to heavy fuel, foreign refineries, because of availability of heavy crudes, are able to produce residual fuel and realize a fair return from it. When damaged refineries abroad are rebuilt it is anticipated that they will process Middle East crudes. Middle East crudes, therefore, may displace much of the South American fuel now going to Europe, and this displaced South American fuel will then be available for import to relieve American demand.

It may be possible to increase the supply of #5 Fuel Oil at the expense of #6 residual fuel. This product, as you know, is the equivalent of a blend of residual and heating oil fractions. Increased supplies of this product undoubtedly will be made available if there is sufficient demand and attractiveness of price to the refiner. Number 5 has, I think, definitely attractive possibilities from your viewpoint. It is an excellent fuel for apartment houses, for example, where a furnace man cannot be on hand 24 hours a day.

And so, to summarize a study of the outlook for the next ten years, I feel that kerosene demand will rise for a while and then level off; heating oil will continue to increase steadily. Kerosene and heating oil supplies should be adequate to meet your requirements. Residual consumption will be limited by supply, which is expected to be tight. Additional supplies of #5 Fuel Oil may be made available.

My conclusions are based on a combination of past experience, present statistics, and what the economists tell me. I believe they parallel in general the views of other people in the oil industry. I think they are as good as any attempt to forecast the future can be, but what will actually happen depends on a number of things.

We can do something about some of them now.

Close control of refining yields will be necessary to meet petroleum fuel requirements. The industry will have to produce at near capacity 365 days in the year, be-

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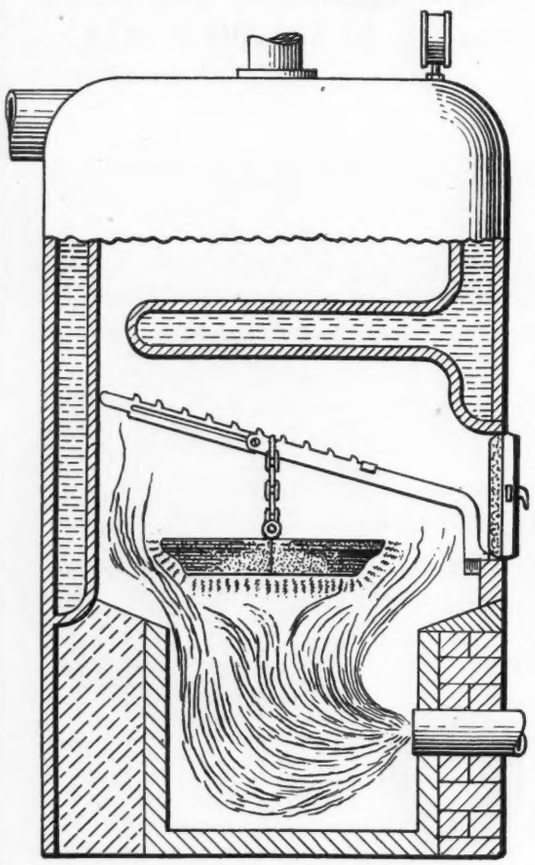

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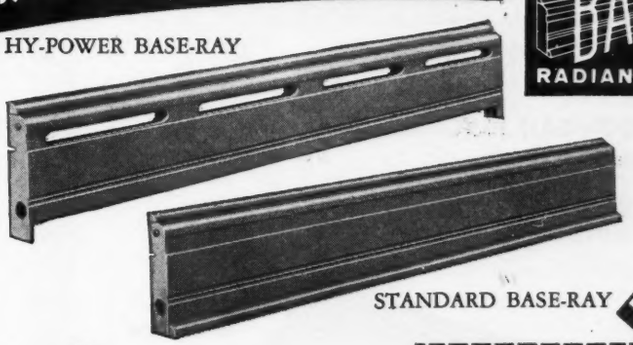

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fueloil & oil heat

cause for the first time in petroleum history we find ourselves without an adequate amount of spare refining and storage facilities to provide much of a margin of safety. Completion of the major part of planned new refining facilities is still two or three years away, due to shortages of materials.

Business has not only expanded up to refinery capacity, but also up to storage capacity. We expect the demand for petroleum products in 1947 to be about 24.6 per cent greater than it was in 1941, but the industry added practically no new storage capacity during the war or since.

If we expect to meet the anticipated demand, and to discharge our responsibility to our customers, we must use all our refining capacity and not only use all our present storage capacity, but build substantially more tanks. Distributors must make a special effort to fill the customers' tanks in the summer. In fact, we can no longer consider that there is such a thing as a heating oil season—heating oil must became an all-year business.

Distributors cannot let their own tanks remain empty, either. The refineries can no longer run heating oil to order, or increase supplies when the distributor desires. Tanks must be filled in summer.

I know that many distributors are reluctant to fill their storage during the off-season. They hesitate to purchase in advance, to stand finance and storage expenses, and to run the risk of possible decline in market prices before the consuming season starts. In the past failure to utilize distributor storage fully has not placed too much strain on the oil industry, but in the future all available storage will be required to insure the next season's supplies.

If this proves too great a burden for distributors to carry, perhaps they should endeavor to work out a mutually satisfactory arrangement with their suppliers to make it possible to utilize their storage to the utmost extent.

I think this matter of tight supplies and the necessity of using every bit of storage ties in with a third point, and that is that we must develop a whole new philosophy in the heating oil business. The oil industry must learn to look ahead and be prepared, if necessary, to carry over inventories from one season to another. We must no longer be afraid of having large stocks on hand, for those stocks may be very valuable to us in case of a sudden demand which the refiners may be unable to meet.

Consider, for example, how much small percentage changes can mean in terms of volume. If our estimates of the 1947 consumption of heating oil are off 4 per cent, which may be regarded as reasonably close estimating, it may mean an increased demand of 6 million barrels. Add to this the unpredictable vagaries of the weather, which has often jumped more than ten per cent above or below normal, and you will see that the combination of colder weather and error in estimating unit consumption could mean that demand could be about 20 million barrels higher than planned, the major effect of which would be felt in the cold months of January, February, and March.

Providing the flexibility to meet this potential swing presents a challenge to all of us. It can no longer be met entirely by adjusting yields for it must be remembered that the impact of weather is also important to the kerosene group, and a rapidly increasing share of the kerosene demand is for heating.

If the industry were called upon to increase yields in December, January, and

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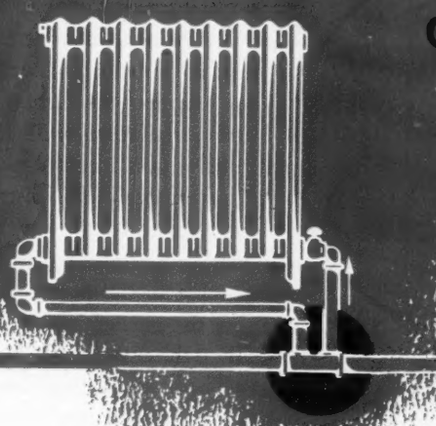

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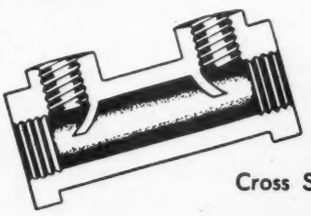

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February to provide 20 million barrels more than had previously been estimated, it would mean an increase of four and one-half per cent yield of heating oil alone on a crude run of four million nine hundred thousand barrels per day for 90 days.

It is very doubtful if such an increase in yield is physically possible with present equipment, particularly when refineries would normally be running for high yields of heating oils at that time.

The members of the oil industry and the oilburning industry have a mutual problem and that is to prevent any serious deficiencies in heating oil supply and service to their customers. Recognition and appreciation of the problem will go a long way toward preventing difficulties.

I wish to make several suggestions. As I have said, we must all work together in the closest co-operation. We must be able to rely on each other. You have come to expect several things of the oil industry, mainly that it will have the oil for you whenever you want it. We won't be able to do that so easily any more. Instead we will have to rely on you to help us with estimates, storage facilities, and a new philosophy in which you set your sights on a continuous and long-range program.

First of all I suggest that storage facilities be increased. I think the oil industry, including distributors, should build more tankage to take care of essential off-season accumulation.

Then I think your tanks, our tanks, and the customers' tanks should be kept filled in the off-season and as far into the winter as possible. And I have already said that, in the interests of cooperation and mutual solution of our problems, it may be desirable for suppliers and distributors to work out means of sharing any unusual risk involved. No matter what is done, a full tank at the beginning of the season will be your best insurance.

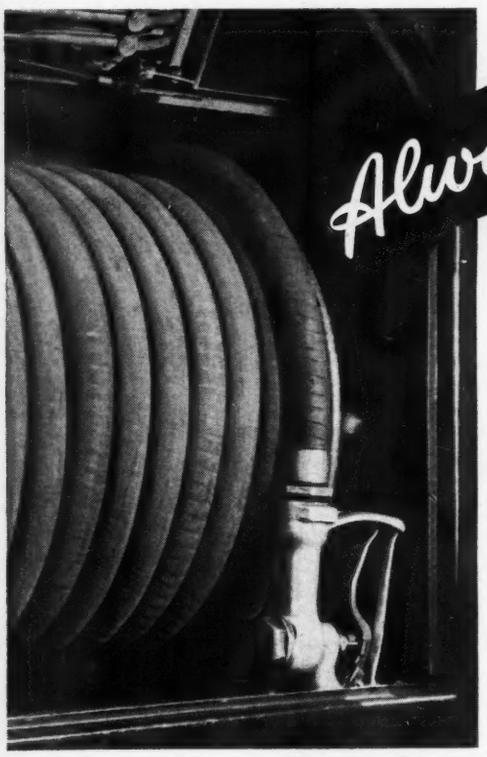
The oil industry can meet your fuel requirements if it knows in advance what they will be and can plan ahead. You should be planning now for the 1947-48 season in order to get more supplies. For, if, at the beginning of winter, industry wakes up to the fact that demand is likely to be substantially in excess of its planning, it may be unable to meet it.

I strongly recommend that in the immediate future chief dependence on supplies to meet the increasing demand from new installations will have to be placed in off-season accumulation of inventories. Furthermore, with distribution facilities not as plentiful as we would like, it would seem prudent to move supplies as close as possible to the point of consumption before the burners go on. In other words—fill up the customers' tanks.

These suggestions are the essence of what I call the new philosophy in the oilheating industry. We must estimate demand more accurately and become more aware of the need for maintaining much higher stocks to allow for colder than normal winters.

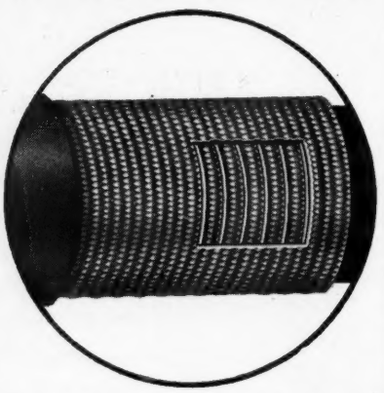
We must begin to consider heating oils on a year around basis, rather than seasonal, as the means of making it possible to expand the use of heating oil without incurring shortages and cold homes which will create irreparable harm to all of us, the burner manufacturer as well as the oil supplier.

I am confident that the oilheating industry, by acting as an integrated team from the supplier through to the customer, will be able to meet the anticipated record demand for liquid fuels for heating.



Always ROUND

ON OR OFF THE REEL



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Competitive Fuel Prices

(*Continued from page 66*)

stallations decreases as the size of the installation increases and, in fact, you will note that when we talk about central power plants that practically all of the efficiencies are the same, or the differences are much smaller than in other installations.

All of our tables, of course, compare simply the price of one fuel with another and do not take into consideration many of the non-cash items which are the reason for a great many of the people choosing one fuel vs. another. These non-cash items are such things as initial cost, convenience, cleanliness, automatic delivery, cost of handling ashes or their removal, storage space required and other factors. In the case of coal used in buildings and manufacturing and central power plants, we believe that the user, to his advantage, could include in the price of coal before making the comparison a 75¢ a ton charge over and above the invoice price of the coal. This might come as low as 50¢ a ton if the installation were large and quite efficient. This represents the extra cost of simply handling coal vs. oil and is based upon the opinions from many inquiries. Tables can be calculated which will make it possible for someone to take any fuel as a starting point and determine what the comparable cost is for any other fuel and in any kind of installation. These tables could then be utilized in any specific installation or in any location, or combination of locations or areas.

For those who want to pursue this study further the retail price of coal can be secured from a monthly circular published by the U. S. Department of Labor called "Retail Prices of Fuels by Cities." At present the wholesale prices for bituminous coal and residual fueloil have to be secured from the independent companies or through a special inquiry to the government. The retail prices of distillate fueloil are contained in this same publication.

It might be interesting to know that as a result of our calculations we found that in 14 selected cities covering the East and Mid-west, the average price of bituminous coal to industrial users in 1946 was $5.48 per ton and that in the same cities the price of #6 fueloil was $2.07. Conversion of the coal prices indicates that on an average the user of bituminous coal in industrial plants has a price advantage over oil. In looking over the situation, however, we find that advantage is confined to cities in the interior, whereas those in the Coastal areas or along the Seaboard the oil user had an advantage. This is a very interesting point because in spite of these cash disadvantages that industrial users are faced with in this interior area, they are still clamoring for residual fueloil which must indicate that the non-cash items, or those that we call non-cash, are of such magnitude as to make it still highly desirable to burn heavy fueloil as against bituminous coal. When making comparisons as to what would affect home users in 16 cities where bituminous coal is used, it was seen that the cash price of oil in 1946 exceeded the converted coal price by about 0.6¢ a gallon. Therefore, it cannot be said, as it can in the area using anthracite coal, that a user of oil can make a cash saving on an average, but still many users have a large concern about the non-cash saving that they make from the installation of oil.

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In studying gas consumption it was found that there are many factors other than degree days which affect the consumption of gas. In a number of cities we know the number of users of gas and total gas used so that you can get the average of gas used per customer for heating. We attempted to correlate these with the known degree days and there is no good correlation between the two which must indicate that there are economic conditions, i.e., size of homes and other factors which have a greater effect on consumption than the weather. This is an important consideration for those who want to study this further. In some areas we made the same comparison of oil in home burners and found the same odd condition. As a general conclusion it can be said that oil is cheaper than manufactured gas, which comprises most of the Eastern area. In the Middle West, however, where natural gas is available it can be said that gas is somewhat cheaper than oil. As an example, in December for 18 New England and Middle Atlantic cities gas sold at a price which was the equivalent of 12¢ a gallon for #2 heating oil which was actually quoted at 8.9¢ a gallon. Therefore, the oil user in this area had a cash saving of 3.1¢ per gallon vs. gas. A comparable comparison made last fall for the same cities would show that oil is 1¢ a gallon cheaper than anthracite coal. Since these comparisons were made, coal prices have advanced considerably and if they were up to date the spread between coal and oil would be greater.

We attach a Table #7 which gives the comparisons of the various kinds of fuels in 18 Eastern cities for the year 1946 who draw their primary oil supplies from the Gulf Coast. Actually these have to be kept up to date as the conditions change.

Changes in oil prices have been so moderate over the last two decades as compared to coal that they have gained great price advantage over anthracite for home heating and have narrowed the advantage that bituminous coal has over oil in areas where that fuel is used for home heating. Oil has a very distinct advantage over manufactured gas but this is not the case where natural gas is available. One of the reasons that oil has a ready market to home users in the natural gas supply areas is that natural gas cannot always be counted upon during extremely cold weather. In many sections no new users of gas are permitted to enter the market because of this same general condition.

We believe that the future holds great promise for an expanding market for petroleum fuels as against coal because everything seems to be moving to the advantage of oil.

◈

E. W. Heffernan has been appointed manager of the Philadelphia sales and service office, Wheelco Instruments Co., Chicago. The new office is located at 424 W. Olney Ave., Philadelphia 20, Pa.

John J. Morro is vice president and general manager of the newly-formed Homestead Equipment and Mfg. Corp., whose executive office is at 130 East 40th St., New York 16, N. Y., with plant in Kew Gardens 15, N. Y. Mr. Morro, well-known engineer and consultant, was general manager and chief engineer, Paragon Oil Burner Corp., Glendale, N. Y.

Theodore F. Steinhorst, president of Emil Steinhorst & Sons, Inc., Utica, N. Y., manufacturers of boiler jackets, died March 10.

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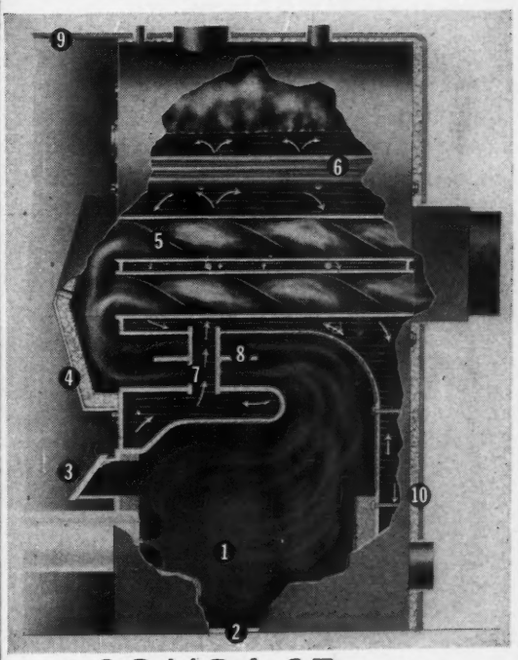

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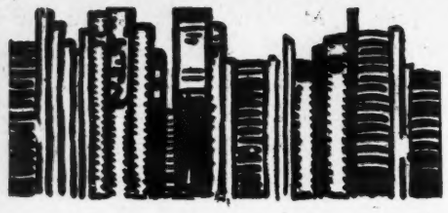

THE BOOK SHELF

Book Tells What Public Thinks of Oil Industry

THE PUBLIC RELATIONS OPERATING COMMITTEE, American Petroleum Institute, announces the availability of the report of the survey of what the public thinks about the oil industry. Reflecting interviews with 10,000 adults, the book, entitled "Those Who Know You Well—Think Well of You," reveals that large parts of the public do not understand how the industry functions and, consequently, have unfavorable opinions about it. As many as one-seventh favor government ownership of the oil industry. Public ignorance or misunderstanding on several vital questions is widespread, the survey finds, although the public on the whole approves the industry for providing quality products and services at reasonable prices.

Results of the survey are broken down into 18 categories so that results can be determined by sections of the country, by producing and refining areas, sex, age groups, race, income groups, etc. The 272 page published volume itself is divided into three sections, namely, discussion of important findings; summary and analysis of results; complete tabulated returns.

Copies are available from American Petroleum Institute, New York 20, N. Y. at $4.00 per copy.

ASHVE Guide

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS, New York, N. Y., is offering the 25th edition of the Society's Heating Ventilating Air Conditioning Guide. All of the Guide's 51 chapters have been reviewed by the Publication Committee, and where advisable changes and improvements have been made. Amplified or revised chapters include: *Cooling Load,* including a larger list of cities for which summer design conditions are given; *Treatment of Fuels and Combustion,* enlarged to include formulas for heat losses accompanying combustion and charts to determine flue gas losses, examples in piping design in the section on hot water heating systems have been simplified; *Unit Air Conditioners, Unit Air Cleaners, Attic Fans,* now includes improved sections on construction features and factors influencing operation and application of unit equipment; *Dehumidification by Sorbent Materials,* contains an example in circulating moisture load; *Refrigeration,* description of the air refrigeration cycle added; *Air Duct Design,* includes friction loss chart for ducts as small as 1½" and a new chart for facilitating corrections for pipe roughness.

A cross index facilitates reference to the technical data section. Also provided is convenient reference to manufacturers' equipment by a catalog section showing products of 240 firms.

There are 912 pages in the technical data section. The Guide, like previous editions, is 6 x 9 ins., bound in blue cloth cover stamped in silver. Price, $6.00 each. Order from FUELOIL & OIL HEAT, 232 Madison Ave., New York 16, N. Y.

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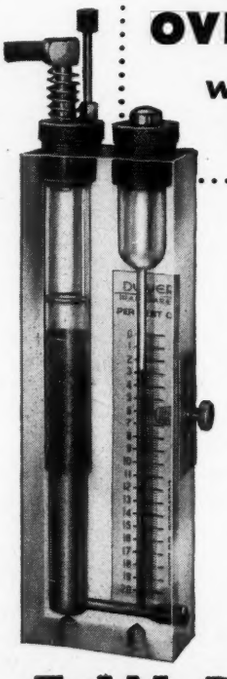

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Now its First again...

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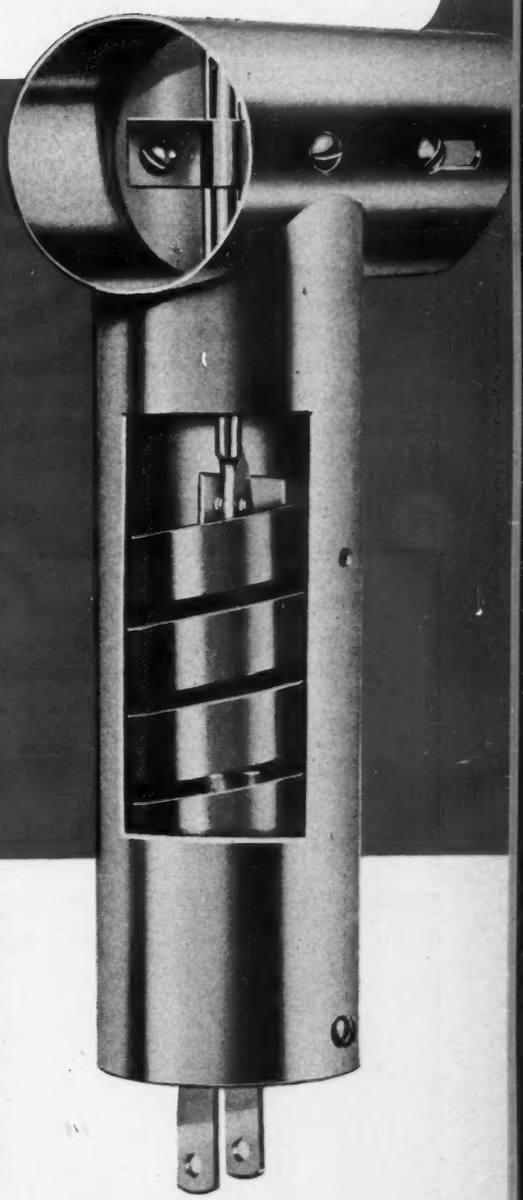

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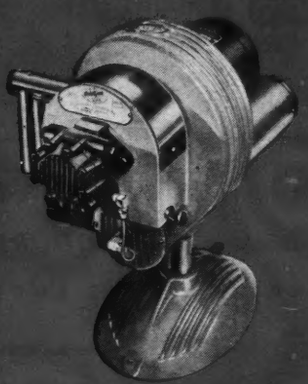

★ The HomEase Fire-Stat is a combustion control for providing precision control over the rate at which combustion air is fed to an oil flame. It feeds a metered amount of extra air to a flame starting in a cold firebox and then gradually reduces the air when the firebox becomes red-hot. From a cold start typical CO_2 readings are 9% to 10%. These figures increase to 12% to 13% in a red-hot firebox. Exhaustive tests show 15% to 20% fuel savings with the Fire-Stat. Homeowners are demanding oil burners known for low fuel costs. The HomEase Fire-Stat provides HomEase dealers with this major sales feature. Remember only HomEase has the Fire-Stat!

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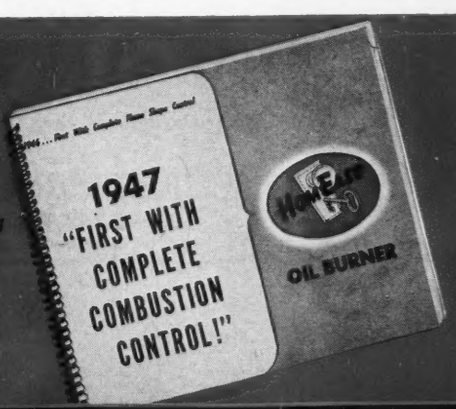

HOMEASE
THE KEY TO BETTER LIVING

Oilheating Trends

(*Continued from page 11*)

In 65% of all cities represented by the reporting dealers the gas utility at some time during the winter announced that it would take no further heating installations to add to its load. The geographic variation on this was: 43% of cities in New England; 50% in Mid-Atlantic states; 88% in the Midwest; and 100% in the Pacific Northwest. The chances are that the Pacific Northwest figure is influenced by the fact that all of the reporting dealers are in fairly large cities, and that gas loads probably could be added in some of the smaller places.

Asked if they believed that gas competition would be weaker in the near future as the result of this winter's experiences, 48% of the reporting dealers, nationwide, believe that it will be weaker. Geographically this is divided, New England 71%; Mid-Atlantic 15%; Midwest 63%; and Pacific Northwest 80%. These are important conclusions, in view of the fact that successful promotion of oilheating is often influenced by a dealer's conception of the strength of competitive fuels. We now have almost half of the dealers convinced that gas has lost ground in the competitive race, a healthy sign.

FUELOIL CHANGES: During the past ninety days there has been quite a bit of discussion among dealers over the changing character of distillate fuels. Some have considered this change a drop in quality, while others recognize it as what Cooley of California Standard called at the Portland OHI meeting, "Growing Pains in the Middle of the Barrel." The implication, of course, is that the new refining processes that came with the war and the greatly expanded requirements for certain products compared to others have resulted in an unsettled condition at the refinery level that will take a little time to work out. Among all fueloil distributors reporting this month, 52% say that the distillate heating oil this winter has been more difficult to handle, or is of less desirable quality than the oil they had last winter. By regions, these percentages are: New England, 63% of dealers say the oil is not as good; Mid-Atlantic 38%; Midwest 61%; Pacific Northwest 50%.

Refiners in general have recognized this difficulty and the better ones have been working day and night to get it straightened out as fast as possible. One-fourth of reporting distributors say that the quality has recently improved, or in other words that it was better at the end of February than it had been a month previous. This leaves 27% of the dealers of the opinion that the quality is worse this year than last, and they have recognized no recent improvement. The improvement reported by sections is: New England 20%; Mid-Atlantic 32%; Midwest none; and Pacific Northwest 50%. It is important to recognize these measurements, for they clearly reflect dealer thinking and point to a serious need for continuing study on the part of refiners to try and get the situation fully corrected before the next heating season.

DEALER COMMENTS: Typical dealer comments on questions of the month are: "Our gas utility did stop conversion installations but only until April; after that we'll probably get our teeth knocked out" . . . "Transformers are still $15 and motors $30; the regular motor manufacturers

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Ask the Dealer — Ask the Service Man — Ask the User

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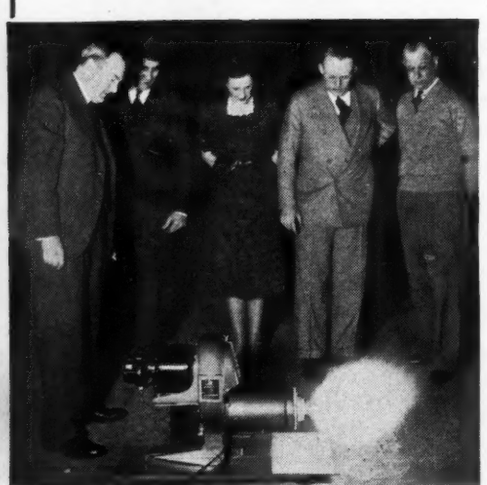
Another BURNER



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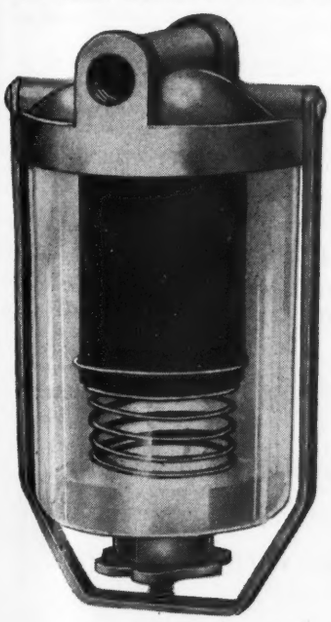
KLEMM CHEMISTONE FILTERS EXCEL FOR THESE REASONS:



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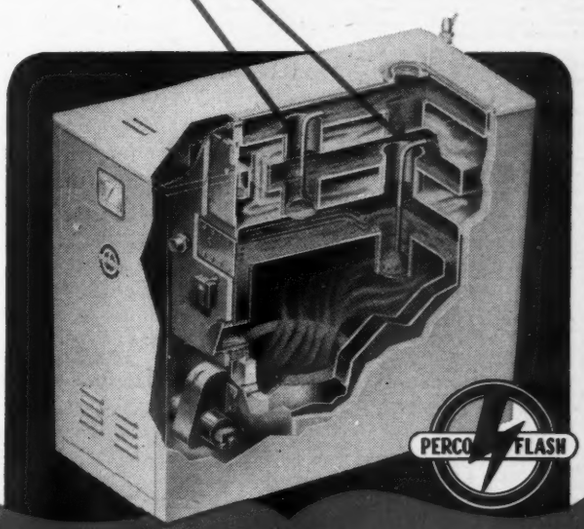

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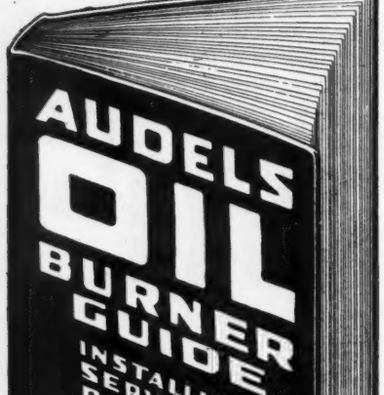

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favor a few special accounts" . . . "Our burner business was very slow from December 15 to February 15 but is now showing some improvement" . . . "The quality of fueloil this season was as undesirable as its odor" . . . "The gas company has stopped selling until April 1, but installations are being made nevertheless" . . . "Fueloil in our market is still very bad" . . . "The oil is full of sulphur and asphalt, also fine black dirt like foundry sand, causing us to have to repair fuel units all the time" . . . "Why have refiners ignored the increase in fuel demand, causing the present stringent shortage in the Midwest?" . . . "Our gas and stoker competition is Nil" . . . "Price of gas is down; price of oil is up; gasburner service is fair; oilburner service is very poor; some houses in our city have been cold this winter because the bulk stations were out of oil" . . . "It may be possible that war oil is still in tanks mixed with new oil and that this is causing the clogging trouble; we recommend having the old oil pumped out of the tanks; this has helped in some cases."

◈

Preferred Catalog On Unit Steam Generators

BULLETIN NO. 1000-E, published by Preferred Utilities Mfg. Corp., New York 23, N. Y., is a two color, 8-page catalog describing in detail 15 models of Preferred unit steam generators. These self-contained, oilfired, steam generating plants for 4-pass, induced draft construction, range in size from 40 to 500 hp, and operate fully automatically even on heavy oil. A table furnishes data and dimensions for all models.

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Dravo Catalog On Industrial Heaters

BULLETIN NO 516 is a 12-page illustrated catalog describing the Dravo Counterflo heater designed for industrial and commercial use. These self-contained, direct-fired warm air heating units for oil or gas firing, are equipped with stainless steel combustion chambers. The heaters, manufactured by Dravo Corp., Pittsburgh 22, Pa., range in capacity from 400,000 to 2,000,000 Btu output per hour.

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Why Controlled Draft?

If you want technical entertainment, buttonhole an oilburner installer or service man and ask, "Just how does a smokepipe draft regulator save oil?"

If your man has not been studying nights, he may wisely send you elsewhere for your answer. Few practical men can say why draft control saves oil. Still, the question is a favorite with the men who prepare examinations for oilburner installers, service men, and dealers. Home owners often ask the same question.

A certain old-timer among burner dealers, respected for being equally adept at selling higher-priced equipment to tight-fisted home owners and explaining combustion intricasies to college professors, demonstrated last summer in a highly practical way that a good smokepipe draft regulator saves oil by cutting the smokepipe loss. A newly-hired service man, told to add a draft regulator to a new installation, had muttered that the burner would run just as well with no regulator.

"Wait for me and we'll go find out about that," the dealer called to the man. "If for twenty years I've been wasting money on draft regulators, I'll learn better now."

Arriving on the job, they found the boiler cool; the weather was mild and the burner had not run for 24 hours.

"I'll get ready for combustion tests, then you start the burner," said the dealer to his service man. "First I want readings on the burner operation with the chimney cold."

Diag. 1 gives the "cold" readings then obtained. The flame appeared rich and the draft was too low, but there was no way to obtain higher draft for starting after a long idle period. The dealer noted that the 8¼% CO_2 and 700° stack temperature of Diag. 1 showed 27½% flue gas loss according to the graph he always used.

Next, the burner was operated steadily for 90 minutes to permit the dealer to take test readings of what occurred on the winter days when most of the oil was burned. Diag. 2 gives the "warm operation" readings thus obtained. Comparing the readings of Diags. 1 and 2 for his service man, the dealer made these points:

a. The smokepipe draft went from .02" to .12" as the burner ran 90 minutes.

b. The over-fire draft increased from 0" to .09" during the warm-up.

c. The final excessive draft dropped the CO_2 from 8¼% to 5¼% by drawing

fueloil & oil heat Short Short Article on Burner Service

more air through air-leaks around the boiler base and doors, and by increasing the air-output of the oilburner.

d. The stack temperature rise (700° to 765°) was caused mainly by warming-up the boiler, partly by the decrease in CO_2.

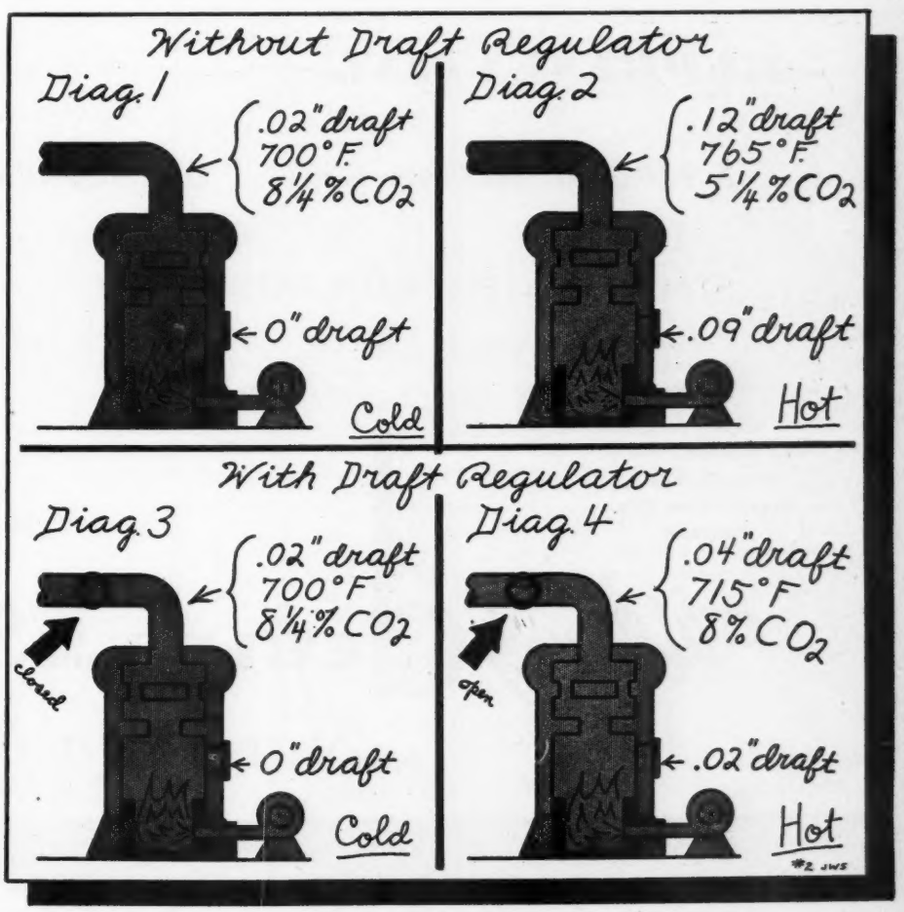
e. The stack loss increased from 27½% of the heat in the oil to 42%, said the dealer; most of the increase was caused by the drop in the CO_2 reading.

After the service man had installed and adjusted the draft regulator, the dealer arranged to meet him on the job the next day, as then the boiler would be cool again, permitting taking another set of readings.

The next day the readings given in Diag. 3 were obtained with the chimney cool. As the draft regulator stayed closed, the readings of Diags. 1 and 3 are the same.

After 90 minutes of continuous burner operation, the readings in Diag. 4 were obtained. The stack loss for Diag. 4 is 28%, emphasized the dealer, compared to 42% stack loss in Diag. 2.

To explain how fuel is saved by a good draft regulator, try this: A good draft regulator saves fuel by preventing the over-fire draft from becoming greatly excessive as the chimney becomes warmer and warmer; to obtain the high CO_2 readings necessary for high efficiency and low oil bills, the smokepipe draft of a domestic oilburner installation must be regulated closely so that the over-fire draft does not become excessive.



Stack Losses: *Diag. 1, 27½%; Diag. 2, 42%; Diag. 3, 27½%; Diag. 4, 28%.*

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Groups' activities to reach the editor by the 20th.

Philadelphia Dealers Get Business Bureau Help

WARNINGS TO THE PUBLIC have been issued by the Better Business Bureau of Philadelphia with the cooperation of the Oil Heat and Oil Heat Dealers Divisions of the Philadelphia Electrical Association, suggesting a close examination of any dealer who attempts to sell an oilburner. A folder has been prepared entitled, "When You Install Oil Heat," advising the customer to know the dealer, read and understand his contract, and make inquiries at the dealer's bank, his business references, and talk to his users.

Early in January, 1947, Basil Cole, a representative of the Better Business Bureau of Philadelphia, submitted to the Oil Heat and Oil Heat Dealers Divisions, a general summary of complaints of the public against practices of certain oil heating concerns and individuals. This report indicated that there was an irresponsible minority whose activities were detrimental to the public interest. Abuses were found to exist in advertising, sales representations, contracts, time-payment plans and in the installation and service of equipment. These practices reflect not only on the persons responsible for them but on the reputation of the legitimate firms in the industry and they tend to lessen public confidence in business as a whole.

The Chairman of the Oil Heat Division, William A. P. Henninger, Federal Oil Burner Co., appointed a committee to work with Mr. Cole on this problem and instructed them to make recommendations as to how their organization might serve to combat deceitful practices. Committee members appointed were: Lionel L. Jacobs, Automatic Heat, Inc.; Frank L. Richdale, Standard Oil Co. of Pennsylvania; and Sheridan Taylor, an official of the Electrical Association.

This committee held a series of meetings with the Better Business Bureau representative and early in February made the recommendation that their organization sponsor the preparation and distribution of literature designed to guide the buyer in his selection of an installing firm, and what to look for in an installation contract. The leaflet, "When You Install Oil Heat" was prepared by the committee and it was urged that this material be placed in the hands of all dealers and salesmen for distribution to prospective customers.

On Wednesday, February 19, the Oil Heat and Oil Heat Dealers Divisions held a meeting at the Electrical Association headquarters in the Architects Building, Philadelphia, and the entire program was outlined by Mr. Henninger. Featured at this meeting was a transcribed radio program, "LOOK . . . BEFORE YOU WEEP," of the Better Business Bureau which was broadcast over Station WPEN on Sunday, February 23. The group was addressed by the Bureau representative, Mr. Cole, and the program endorsed by the chairman of the Oil Heat Dealers Division, Mr. Harold C. Thorpe of American Air Conditioning and Heating Company.

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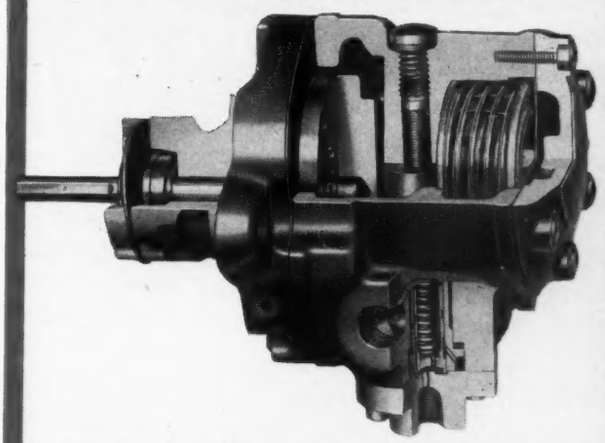
POLO "PLUS" PUMPS
FOR OIL BURNERS



THESE NEW PUMPS GIVE YOU
ALL THE FUNDAMENTALS

Extra capacity . . . Quiet operation . . . Standard mounting holes and adapters . . . Anti-hum device . . . Quick, efficient cut-off . . . Pressure adjustment. . . Connections for one-pipe or two-pipe systems . . . Pressures to 125 psi . . . Suction to 26" of mercury . . . Right-hand and left-hand rotation models . . . 100% tested for leakage, flow, pressure, efficiency of cut-off, and power consumption . . . Leakproof shaft seal.

PLUS

DISTINCTIVE FEATURES *and*
VITAL NEW IMPROVEMENTS

Compact design, clean lines, superior-quality castings . . . Easy valve-piston and sleeve removal and replacement with honed sleeve and superfinished nitralloy piston . . . Pipe connections grouped, uniform porting for R.H. and L.H. rotation, easy to hook up . . . New, improved gasket materials . . . Compact, nested-screen strainer, easy to remove and clean . . . Long-life hardened or chrome-plated shaft, removable without disassembling body . . . Optically flat nitralloy seal bearing with bronze seat . . . Efficient gear pump . . . New pump housing without dowel pins, accurately replaceable in field repairs . . . Closer limits, accurate manufacture, complete interchangeability of repair parts . . . Quality control and life tests . . . Well-equipped engineering and research department, constantly seeking further improvements . . . New, efficient manufacturing facilities.

POLO PUMP CO.

ALL YOU NEED "PLUS" MORE YOU WANT

POLO ILLINOIS

act as a clearinghouse for information concerning the reliability of oil heating firms. Dealers were encouraged to have their prospects call on the Bureau for information as to the business integrity of the firm they intend to employ. All concerns in the fueloil and oilheating fields in Philadelphia were invited to participate in the program; use the literature available and recommend the Better Business Bureau's services to prospective purchasers of oilheating equipment.

To date over 50,000 copies of the leaflet, "When You Install Oil Heat" have been distributed in Philadelphia and the program is being brought to the attention of Better Business Bureaus throughout the country for their information and guidance in the event they decide to follow a similar program in their cities.

Business Bureau Expresses Opinion On Free Service

AT THE REQUEST OF Fuel Oil and Heating Council, Brooklyn 11, N. Y., The Better Business Bureau of New York City gathered information on the subject of free service offered by fueloil dealers. While making no recommendation as to whether burner service be provided with or without charge by fueloil dealers, the Bureau does recommend that:

a. The word "free," referring to full or partial burner service, not be used as an inducement to purchase fueloil.

b. Burner service included in the fueloil price be described as "without extra charge," or "no charge for burner service."

c. Limitations of such service, when offered, be clearly defined, e.g., that the service does or does not include repair or replacement parts; that the service is or is not dependent on quantity of oil purchased or upon the length of time customers purchase fueloil from the advertiser.

The Bureau's opinion stated the standard of advertising that nothing of value be advertised as "free" when there is an obligation to buy a product in order to obtain it, and cites a case of alleged "free" service in which the Federal Trade Commission took the same position.

Trade sources consulted expressed the view that free burner service offered by fueloil dealers must be paid for out of the prices of their products, and that if this cost is not recovered it may be added to the price of parts and the labor of installing them.

A plea for advertisers to eliminate the use of the word "free" when offering burner service in connection with the sale of fueloil concluded the Bureau's report.

Group Honors H. M. Spade For Public Relations Work

AT A RECENT DINNER, held in White Plains, N. Y., by the Westchester Oil Trade Association, Inc., Herbert M. Spare, chairman of the association's advertising committee, was presented with a plaque, tribute for his recent advertising and public relations program for the group. Mr. Spade is responsible for planning, co-ordinating and supervising publicity for the association's members, highlighted by a sponsored half hour radio broadcast each Sunday at 3:30 P.M. over Station WFAS, featuring a forum of high school students. Newspapers, magazine,

NEW! ALL-PURPOSE DRAFT GAUGE

Meets Every Need for INSTALLING and SERVICING Every Type of HEATING EQUIPMENT

Gauge can be located any distance from test point. Reads .25" on 3-inch scale. Free movement of pointer at zero to indicate "puff-backs." Stands firmly, or can be hung on wall. Body serves as reel for carrying rubber tubing. Accurate, durable, dependable.

$14.50 LIST F.O.B., Pgh.

ASK YOUR JOBBER OR WRITE FOR LEAFLET 705

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 BENNETT STREET—PITTSBURGH 8, PA.
MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

IMMEDIATE SHIPMENT

"MASTER-VAC" FURNACE CLEANERS

(FORMERLY PREMIER)

THIS 1 H. P. STURDILY BUILT BOILER VACUUM IS COMPLETE WITH 11 ATTACHMENTS FOR ONLY

$115.00

SEND CHECK OR MONEY ORDER—NO C.O.D.'s.

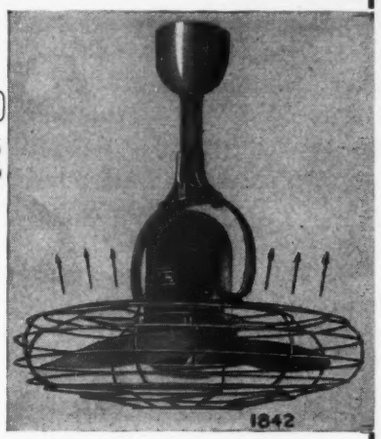
ATLANTIC BURNER SUPPLY CO., Inc.
"Everything for the Trade"
100-05 Atlantic Avenue
Richmond Hill 18, N. Y.

HAVE MANY USES IN INDUSTRY

Reco

RADI-AIRE

CIRCULATOR



Because they blow upwards, they provide uniform air circulation throughout a room and supply exceptional cooling facilities *without annoying drafts.*

Hundreds of ceiling models are now in use in walk-in refrigerators, hospitals, schools, factories, drafting rooms, funeral parlors and offices.

They are far superior as a cooling medium than the old style horizontal blowing fan, and offer an unlimited opportunity for year-around sales.

Write for descriptive literature, prices and complete information.

Established 1900

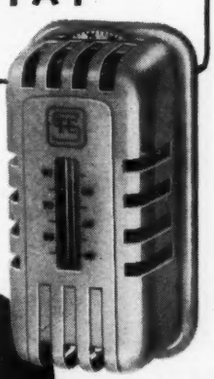
REYNOLDS ELECTRIC COMPANY

2611 W. CONGRESS STREET CHICAGO 12, ILLINOIS

FOR HEAVY LOADS

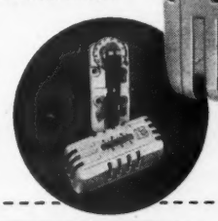
SAMPSEL *heavy duty* LINE VOLTAGE THERMOSTAT

(No. T2266)



DEPENDABLE PERFORMANCE

Here's simple, easily-installed, and trouble-free thermostatic control for electric heaters and furnaces — or similar uses where heavier electrical rating is required. Operating range 50°-90°F, with 2° normal differential.



RATED AT 2000 WATTS

Operates on 115 volts AC, 60 cycle single phase non-inductive load, or 7.4 Amps. at full load and 44.4 Amps. at locked rotor motor load. Write for complete catalog.

Sampsel
AUTOMATIC CONTROLS

SAMPSEL TIME CONTROL, Inc., Spring Valley, Ill.

Canadian Sales Distributor: Pease Foundry Co., Ltd., Toronto 1, Canada

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WAYNE HOME EQUIPMENT

Your Customers See
WAYNE HOME EQUIPMENT IN THESE MAGAZINES

AS A WAYNE "PARTNER"
you may use the FREE Wayne direct mail campaign material in your trading area.

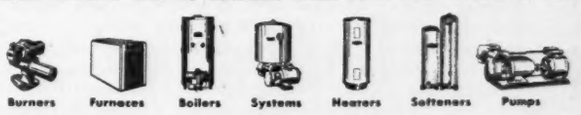
AS A WAYNE "PARTNER"
you may use the FREE Newspaper Ad Mat Service and FREE Store and Window Display Service supplied by Wayne.

AS A WAYNE "PARTNER"
you may use the FREE product literature supplied by Wayne.

A WAYNE "PARTNER" is a full line dealer who sells and services Wayne Home Equipment. Complete details of the Wayne Wholesaler-Dealer Partnership Plan are available on request.

Learn how sales-minded dealers build for a sound business future with Wayne sales help and more NET profit through the Wayne Partnership Plan.

Greatest Benefits Will Be Realized When Sales Are Hardest To Make



Write for Details of The Partnership Plan

Are You Ready For A Buyers' Market?

THE WAYNE HOME EQUIPMENT CO., INC.
FORT WAYNE, INDIANA

car cards and outdoor advertising also are employed. The plaque was presented to Mr. Spade in appreciation for the scope and effectiveness of the campaign he is supervising.

Oil Heats Model Home in Wisconsin Home Show

THE 1947 HOME SHOW, held in Milwaukee, Wis., featured a model home, which was given away on March 22, closing day of the Show. The home was heated by oil, and the Wisconsin Oil Heat Association broadcast this fact to the public with billboards, and a booth at the show. A bright blue, red and yellow color combination makes the billboard effective and striking.

The Association, organized in 1922, celebrates its Silver Anniversary this year, with its largest membership and most elaborate advertising campaign.

Twin City Petroleum Club Elects Slate of Officers

AT A MEETING HELD FEBRUARY 28, Twin City Petroleum Club, Minneapolis, Minn., elected T. H. Gemlo, Petroleum Service Co., president; B. W. Smith, treasurer and H. F. Horning, secretary. Mr. Gemlo, Mr. Smith and T. B. Murphy comprise the Board of Directors.

Members of the Twin City Oil Burner Service Association presented plans for a joint advertising campaign on the advantages of heating with oil. A committee of three from the Petroleum Club was appointed to confer with the Service Association, work out plans and report at future meetings.

MOHA Discusses Revisions In Fueloil Use, Storage

THE 143D MEETING of the Massachusetts Oil Heating Association, held March 18, 1947 at Boston, Mass., heard an address by Fred M. Beckwith, executive secretary of the Oil Heat Institute of New England, discussing contemplated changes in rules and regulations governing the storage and use of fueloil. A public hearing was held on March 20 in the State Fire Marshal's Office, Department of Public Safety, Boston, on the revisions recommended by a special commission appointed to review State Regulations regarding public safety. Other suggestions would revise permit procedure for equipment approval, provide for all installers to be issued a certificate of competency by the State Fire Marshal and revise present regulations, Form F, as they relate to domestic and industrial power burners.

The second speaker at the meeting was George W. Sprague, manager of Minneapolis-Honeywell's Modulflow Div., Boston, who explained the new heat control.

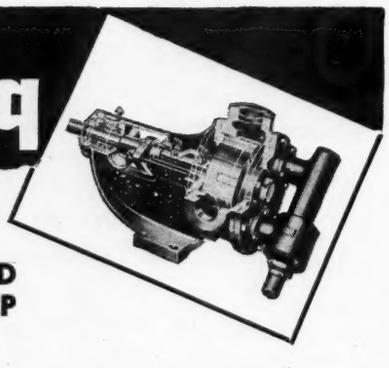
Independent Oil Men Meet In Boston, April 15-16

TWO DAYS OF INSTRUCTIVE FORUMS, noted speakers and entertainment are planned by the Independent Oil Men's Association of New England for their 23rd Annual Convention being held at the Hotel Statler, Boston, April 15 and 16.

The April 15 session will be led by Dr. John W. Frey, honorary chairman and API Director of Marketing. At this session, API presents its newly developed public relations program.

Wednesday, April 16, the session will be a forum, "Burner Service for Public

Viking



THE PREFERRED ROTARY PUMP *in the*

Fuel Oil and Heating Field

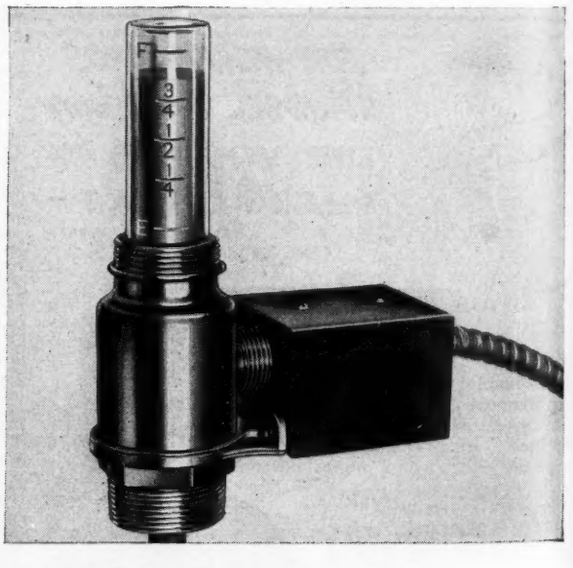
A recent nation-wide survey showed decisively the wide popularity of Viking Rotary Pumps in the fuel oil and heating field. Why this preference? The answer is simple.

Viking Rotary Pumps do a dependable job because they are simple . . . just 2 moving parts . . . each self-supported. They operate at low speed, which provides longer, trouble-free life. There are no gadgets, springs or timing gears to get out of order. They are self-priming . . . move the liquid without pulsation.

Write today for Bulletin Series 1500EE. It will be sent to you by return mail.

See Our Catalog In SWEETS

VIKING PUMP COMPANY
CEDAR FALLS, IOWA



DIXON CUT-OFF OIL GAUGE

For use on 275 gallon tanks, automatically cuts off oil burner when supply gets low. With the Dixon Oil Gauge loss of prime, clogged filters, clogged nozzles, and other service problems are reduced to a minimum.

NEW YORK AIR VALVE CORPORATION
611-21 BROADWAY - NEW YORK 12, N. Y.

Relations and Industry Growth." Robert Gray, business manager, FUELOIL & OIL HEAT, will be moderator of the session, assisted by Al Buckley, Providence; John Sherwood, Baltimore, H. M. Spade, Hartsdale, N. Y.; Charles Whitney, Philadelphia.

Arrangements for entertainment feature an Oil Men's Night Club on the 15th and a luncheon after the Forum on the 16th at which Barney Majewski, vice president of the Deep Rock Oil Co. and a vice president of API, will be the speaker. A banquet on the night of the 16th climaxes the convention.

ESPA Schedules Annual Convention

EMPIRE STATE PETROLEUM ASSOCIATION, INC., has announced plans for its Seventh Annual Spring Convention and Trade Exposition, to be held April 28, 29 and 30 at the Hotel Onondaga, Syracuse, N. Y.

Scheduled speakers are: B. I. Graves, Tide Water Associated Oil Co.; Gordon Duke, president, Southeastern Oil, Inc., and chairman, National Council of Independent Petroleum Associations; Dr. John Frey, director of marketing, API; Franklyn Waltman, director of public relations, Sun Oil Co. and chairman, Operating Committee, API; Herb Spade, general manager, E. Robison Co., Scarsdale, N. Y.

W. Chalmers Burns, president, Richfield Oil Corp. of New York, will be the guest of honor.

Form Plumbing, Pipe Fitting Group

A CERTIFICATE OF INFORMATION has been issued to the United Associated Employers of the Plumbing, Pipe Fitting and Sewer Industry of the United States and Canada, Chicago 40, Ill. Purposes of the new group are announced to improve standards of safety and sanitation laws through better manufacturing processes and installations, improvement of lien laws, dissemination of credit information and to raise industry standards.

Harry Kauffman, Eugene Conway, John W. Cahill compose the Board of Directors, and invite inquiries from associations or groups desiring to form chapters.

API News

AT A TWO DAY MEETING, which ended February 26, the Public Relations Operating Committee, American Petroleum Institute in Chicago made plans to provide all branches of the oil business with booklets, slide films and other material which will best tell its story. The committee heard also that district committees are organized in PAW Districts 1, 2, 3 and 4, and that program presentations have been made to 19 trade associations and groups.

Franklyn Waltman, director of public relations, Sun Oil Co., Philadelphia, presided over the meeting and was elected to chairmanship, succeeding Robert T. Haslam, Standard Oil Co. (N. J.), who resigned because of poor health.

A national oil marketing meeting, sponsored by the General Marketing Committee, API, was held April 1and 2 at French Lick, Ind. At the sessions of the meeting, Lieut. Gen. James A. Doolittle, vice president, Shell Union Oil Corp., spoke on "Private Flying and its Effect on Petroleum Marketing; Dr. Claude Robinson, president, Opinion Research Corp., discussed "The Oil Marketer and his

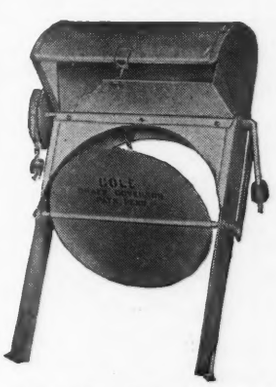
CSE BAROMETRIC DRAFT CONTROLS

For every type and size of installation

Fuel Saving Starts With CONTROL

The Cole Draft Governor is especially designed for oil, coal, and gas fired heating and power plants, any size. . . . Fully automatic, instant opening at the start of automatic firing devices, simple, trouble-free, efficient, easily installed. . . . Fuel saving up to 35%.

Standard domestic round Cole Draft Governor (cut out to show working parts).



Standard domestic round Cole Draft Governor, Type A, as shipped.

Write or wire today for complete information.

COLE-SEWELL ENGINEERING CO.

2288 University Ave. St. Paul 4, Minn.

It's here!

THE NEW MODERN

Paragon

NONE BETTER

OIL BURNER

— most home-owners have been waiting for!

. . . backed by more than 100,000,000 gallons of fuel oil experience, the Paragon Oil Burner is recommended as a BEST BUY by a National Research Bureau.

Paragon Oil Burner Corp.

75 Bridgewater Street, Brooklyn 22, N. Y.

Relations with the Public"; Charles Roberts, Stewart-Dougall and Associates, chose as his topic "New Opportunities in the Petroleum Field for the Oil Marketer."

ASHVE Research To Study Panel Heating

REPRESENTATIVES FROM trade associations, technical societies, manufacturers, government agencies, and colleges attended a meeting held at the Research Laboratory of the American Society of Heating and Ventilating Engineers, in Cleveland, March 7. It was unanimously voted by the 110 representatives that the Society should undertake the correlation and coordination of research on radiant panel heating. A Technical Advisory Committee on Panel Heating will be selected to review literature on the subject, list problems requiring solution. The committee also was charged with investigating the need for research into various phases of the subject and to survey available university and industrial laboratory facilities where further studies might be undertaken.

A bibliography of 120 references to published information on panel heating may be obtained from the ASHVE Research Laboratory, Cleveland 3, Ohio.

Society Plans Semi-Annual Meeting

DR. B. M. WOODS, president, American Society of Heating and Ventilating Engineers, announces that the semi-annual meeting of the Society will be held June 2 to 4, at Coronado, Calif. The Southern California Chapter of the Society will act as host. The three day meeting will consist of three technical sessions at which nine papers on Research activities and other subjects will be presented.

◈

Coal Company Starts Synthetic Oil Research

PITTSBURGH CONSOLIDATION COAL CO., is establishing a new experimental station at Library, Pa., to study gasification of coal and conversion of coal to oil. The company is the largest commercial coal firm in the country. The establishment of the research project is one of its latest moves in a program of modernization, research and development aimed at creating a continuing market for its coal.

◈

Service Classes Held By Ray Sales, N. Y.

RAY OIL BURNER SALES, Inc., New York 7, N. Y., is holding classes for their installation and service men, covering theory and practice which the men can use in the field.

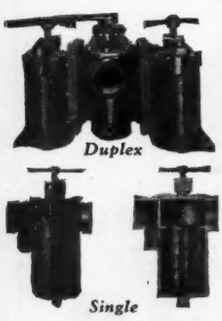
Copies of the revised edition of *Better Oilheating*, published by FUELOIL & OIL HEAT, are used as a text on which classes and discussions are based.

Morrison Steel Products, Inc., Buffalo, N. Y., has available a Sales Manual for Merchandisers of Warm Air Furnaces. Copies cost 25¢ each and supplementary bulletins will be issued from time to time and distributed at no charge to possessors of the manual. As explained in a foreword, the booklet is not an attempt to be a treatise on selling, but rather it points out to the dealer how he can use the things he already has and knows. Three separate chapters discuss the replacement, new house and modernization types of sale.

KRAISSL
FILTERS
STRAINERS
PUMPS
Keep Fuel Oil Lines Open and Active

Year-in, year-out performance proves the skill of KRAISSL engineering design and the honesty of KRAISSL manufacture.

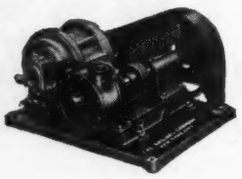
Class 72 Strainers and Filters



Single and Duplex types for suction or discharge service — any practical degree of filtration in units designed for low pressures as well as up to 500 lbs. hydrostatic test—easily removable filter basket insures quick cleaning.

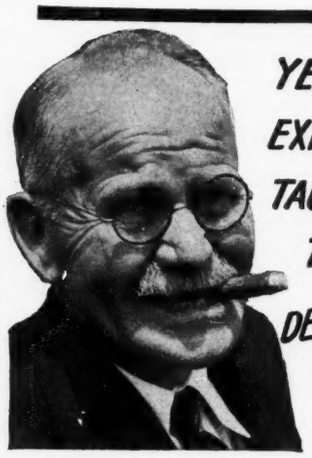
Class 60 Heavy Oil Pumps

Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.



Submit your fuel-line problems to KRAISSL engineers—literature and prices on request.

295 WILLIAMS AVE.
THE KRAISSL COMPANY
HACKENSACK, N. J.



YEARS OF EXPERIENCE TAUGHT ME TO USE DEPENDABLE GAUGES. THAT'S WHY I RECOMMEND ONLY

LEVELOMETER
Tank Gauges

These trustworthy gauges eliminate guess work and offer convenient remote readings...as well as assuring greater protection against overflowing oil tanks. Consequently, Levelometer tank gauges save service calls and offer greater customer satisfaction all around. Little wonder, Levelometer is the choice of dealers who insist upon dependable oil tank gauges.

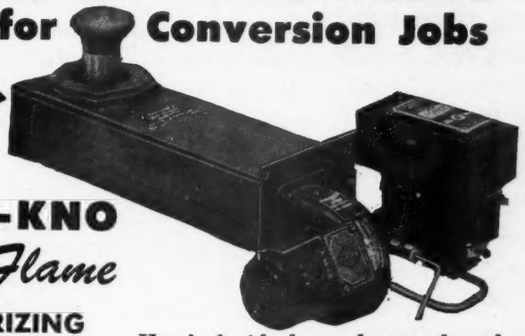
Midget LEVELOMETER
Lowest priced Remote Reading Gauge built

"Liquids Worth Storing Are Worth Measuring"

THE LIQUIDOMETER CORP
36-19 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

WARM AIR FURNACE BUILDERS AND DEALERS

Here's Just the Burner for Complete Furnace Units or for Conversion Jobs



KRES-KNO
Ball Flame
VAPORIZING OIL BURNER

Made in 2 sizes: 105,000 and 210,000 B.t.u. per hour. Carries Underwriter's and municipal approvals. Burner complete with electric oil and air control for automatic operation on high and low fire; thermostatically controlled.

Here's the ideal complete, packaged, patented automatic vaporizing burner—with all controls—for new or old furnaces. Simple, unique design and amazingly low-cost performance have made the "Ball Flame" one of America's largest selling vaporizing burners. Adopted by outstanding warm air furnace manufacturers. Prompt delivery.

It will pay you to investigate "Ball Flame" Burners. Write.

KRESNO-STAMM MANUFACTURING CO.
General Offices—PALISADES PARK, N. J.
Factories in New York, N. Y., Palisades Park, N. J. and Granby, Que.
Canadian Licensees: Kresno-Stamm Mfg. Co. (Canada) Ltd.
518 University Tower Bldg., Montreal 2, Que.

5 MINUTES TO INSTALL

8% to 15% Oil Saving

if you install

MYKA-DISK AND DISK-ARM (Pat. Appl. For)

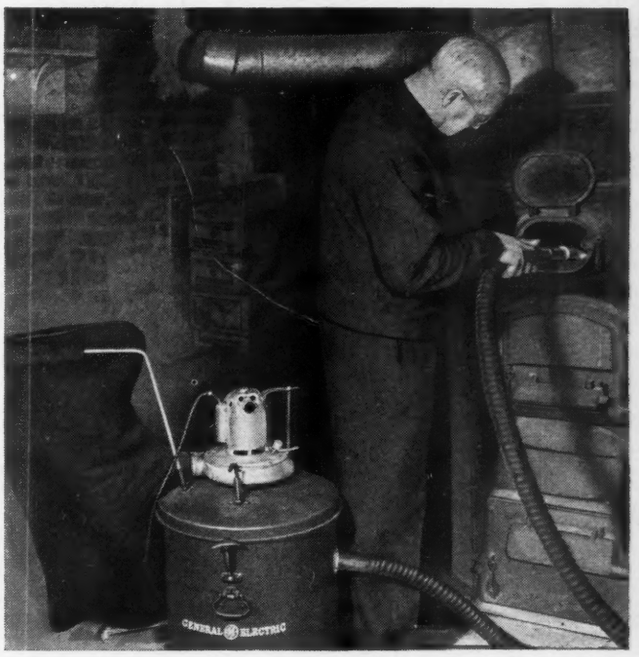
SPEEDS UP HEATING. Lowers Stack Temperature. Permits higher CO_2 readings. Decreases Formation of Soot. Lowers Combustion Noise, and pays its way in a few weeks. Send for

BULLETIN No. 15 (Free)

INSULATION & REFRACTORIES CO.
WILLIAMSON . . . . WAYNE COUNTY . . . . N. Y.

Faster—more efficient furnace cleaning!

Check these advantages of the General Electric Furnace and Boiler Cleaner



Here is a quick, sure way to save time and do a more efficient furnace cleaning job.

This furnace cleaner is built and tested by General Electric, world's largest manufacturer of vacuum cleaners. This machine is equipped with the dependable General Electric motor and backed by the company warranty.

General Electric provides prompt dealer service in repairs and replacement of parts—plus all the specially designed tools which make inaccessible places easy to clean.

For further details, mail coupon below. General Electric Company, Bridgeport 2, Conn.

FAST · EFFICIENT · QUIET · ECONOMICAL

The New General Electric

Commercial Vacuum Cleaner

GENERAL ELECTRIC

A & M Department, General Electric Company, Bridgeport 2, Conn.
227-141
Sirs:
Please send me descriptive literature on the General Electric Furnace and Boiler Cleaner. ( )
Please arrange for a free demonstration. ( )
Name of individual.....
Name of firm.....
Address.....City.....State.....

Manufacturers Activities

G-E Reorganizes Some AC-Divisions

GENERAL ELECTRIC'S Air Conditioning Department, Bloomfield, N. J., has reorganized certain sales and product divisions to facilitate expansion, according to G. R. Prout, vice president and general manager.

The Refrigeration Machine and Remote Equipment Divisions have been established, with W. F. R. Karsten as sales manager. The divisions will assume full product line responsibility for the design, manufacture and marketing of refrigeration machines, remote air conditioners, evaporative coolers and condensers, heat transfer surfaces and coils, self-contained air conditioners (except room coolers), remote room coolers and product coolers.

R. U. Berry, formerly manager of the Field Engineering Div., has been named manager of the Industrial, Marine and Contractor Division in charge of sales of all department products to industrial marine and contractor customers, to agencies of the United States and state governments.

A Renewal Parts Division has been established and L. E. Thompson appointed its manager. It will be responsible for all operations involving parts. All repair and return material and equipment will be handled by the new division.

Commercial Engineering Divisions is the title of the combined Field Engineering Division and Commercial Engineering Division. F. H. Faust, formerly head of the latter, will head the new combination.

Honeywell-Brown New Office

MINNEAPOLIS - HONEYWELL REGULATOR CO., Minneapolis, Minn., and its industrial division, Brown Instrument Co., Philadelphia, Pa., have opened a district office at 27 Halstead St., East Orange, N. J.

The new site will operate under New York branch office direction and will be manned by six Honeywell and five Brown sales and service engineers.

Three Day Conference Held For Heil Representatives

THIRTY-FIVE SALES MANAGERS, district managers and sales representatives, attended the first full scale sales clinic held since the war by Heil Co., Milwaukee, Wis. Held at the factory from February 10 to 12, the three day conference consisted of one half-day devoted to each of the firm's six divisions, with the sales managers of each division leading the discussions.

Home office department heads and engineers also addressed the sessions, employing charts, diagrams and actual cut-a-way models of Heil product features to explain mechanical improvements and new developments. Special emphasis was placed on the company's product standardization policy. Allocations of anticipated production were made by territories.

Duo-Therm Appoints New Mexico Outlet

CHARLES ILFELD CO., Albuquerque, New Mexico, has been appointed Duo-Therm furnace distributor by Motor Wheel

BALLOFFET
design
NOZZLES
DELAVAN
ENGINEERING
Manufacture
a good Combination
THAT ECLIPSES THEM ALL . . .
Now, you will find every Balloffet design oil burner nozzle marked BALLOFFET BY DELAVAN . . . manufactured exclusively by DELAVAN ENGINEERING COMPANY, under Balloffet license. The well-known Balloffet design combined with the specialized engineering skill of DELAVAN manufacture make these nozzles unexcelled for precision construction. Built to "DELAVAN STANDARDS" symbolizes their high operating efficiency . . . dependable performance and long life.
BALLOFFET
Dies & Nozzle Co., Inc.
Guttenberg, N. J.
Manufacturer:
DELAVAN
ENGINEERING CO.
Des Moines 9, Iowa

Corp., Lansing, Mich. M. F. Cotes, executive vice president of Motor Wheel, stated that the company would serve the same territory it already covers in distributing Duo-Therm oilfired space heaters and water heaters, consisting of the entire state of New Mexico, five counties in southwestern Colorado and twelve counties in northwestern Texas.

Rheem Mfg. Appoints Advertising Agent

RHEEM MFG. CO. has announced the appointment of Foote, Cone & Belding, New York, N. Y., to handle its advertising account.

York-Shipley Expands Industrial Organization

GEORGE FRANK, manager, Industrial Div., York-Shipley, Inc., York, announces an expanded sales and service organization. Other personnel in the division include: F. W. Cooper, assistant manager; W. S. Tallon, application engineer; E. W. Hagblom and B. S. Shewell, field service engineers. District managers, and their territories, are: J. Walz, Jr., middle west; R. P. Lindemuth, middle Atlantic; C. M. Keady, southern.

The Industrial Division's distributor organization has been expanded also, and now has exclusively franchised distributors in 24 cities throughout the three districts listed above. Each of the distributors in turn has his own dealer organization through which sales and service of York-Shipley equipment are localized.

Register Division Formed By Minneapolis-Honeywell

A NEW SALES DIVISION has been formed by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., to market its warm air registers and grilles.

Principal products of the new division are the new "Air Conditioning Register" and return grille. The register is a high or low wall air outlet with built-in volume dampers. Its curved exterior is said to be capable of moving large volumes of air through a comparatively small opening, with the added feature of eliminating drafts.

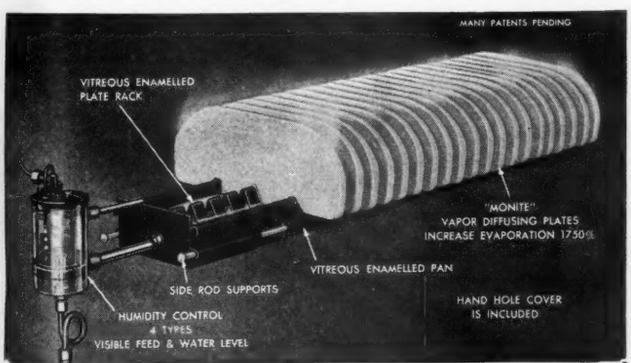
Limited production of the new units has been started in Honeywell's Wabash plant, according to John E. Haines, vice president. Distribution and sales will be handled through the company's branch offices. L. J. Krause is directing the activities of the Register Division.

Jefferson Transformers Used On Units Heating Streamliner

THE NEW ATCHISON, TOPEKA & SANTA FE Streamliner, recently put into service, is heated by a steam generating, oilfired system. The units are of the coil water tube, forced-circulation type, with ignition transformers, furnished by Jefferson Electric Co., Bellwood, Ill., providing automatic ignition. Transformers have secondary voltage of 10,000, with 50 volt primaries. The alternating current supplied the transformer is also used to drive the motor operated water pump, fuel pump and blower.

Sid Harvey of N. J. Expands; Fire Damages Pa. Branch

MATHIAS P. BERNARD, president of Sid Harvey of N. J., Inc., reports that business demands have exceeded expectations. As a result, the branch has acquired the store immediately adjoining its present lo-


MANY PATENTS PENDING
VITREOUS ENAMELLED PLATE RACK
"MONITE" VAPOR DIFFUSING PLATES INCREASE EVAPORATION 1750%
VITREOUS ENAMELLED PAN
SIDE ROD SUPPORTS
HUMIDITY CONTROL 4 TYPES VISIBLE FEED & WATER LEVEL
HAND HOLE COVER IS INCLUDED

MONMOUTH HUMIDIFIERS

● Suggest Monmouth Flotrol Humidifiers on your jobs. Dealers everywhere are keen on this accessory. It means EXTRA sales easily made while you are selling, installing or servicing a warm air job. Proper humidity is an essential of every modern heating system. Only a well engineered, reliable device can provide it. Why waste your time servicing cheap, experimental humidifiers, and risk customer confidence?

With Monmouth, efficient performance is assured. Thousands of installations in the past 10 years prove this. Correctly installed, Monmouth is a dependable product, gives years of trouble-free service—saves everybody money in the end.

Full details and prices sent on request.

THE CLEVELAND HUMIDIFIER CO.

7808 Wade Park Ave. Cleveland 3, Ohio

STEP UP your circulation with AUTO-VENT Air Eliminators

Simple as A-B-C . . . yet positive in action everytime! Sure-cure for air pockets and air traps that hold up the free circulation of water or other liquids flowing through pipes—pressures to 75 lbs. Simple in construction —easy to install!

Built of brass with self-closing float operated valve. Withstands high temperatures, oil and other adverse conditions. Try these No. 7 Auto-Vents once, and you'll use them on every job. They're that good, yet NOT expensive!

★ ★ ★

HERE'S HOW TO VENT!

Hot or Cold Water Lines
Convectors
Unit Heaters
Tanks
Diesel Engines
Cooling Manifolds

IT WILL PAY for you to have information and prices on the complete Maid-O'-Mist line which includes other types of air eliminators, control valves and heating specialties. Write us today, or see your jobber.

MAID-O'-MIST INC.

3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

cation, 103 Lindsley Ave., Newark, N. J. Acquisition of this additional space will increase size by one-third.

In West Philadelphia, fire broke out during the evening of March 5 in the Saratoga Market, which adjoins the main office and store of Sid Harvey of Pa., Inc. The entire market was destroyed, but the retaining wall between the two properties held sufficiently so that the flames did not penetrate the store. Damage from water, heat and smoke, however, amounted to approximately $10,000. The loss is covered by insurance, but the possibility exists that the present building may be condemned as a result of the fire.

De Soto In Full Production

AN ANNOUNCEMENT released by De Soto Oil Burner Corp., York, Pa., reveals that the company has reached peak production on oilburners and oilburning water heaters.

In the water heater department, a production line features both roller and overhead track conveyors, while the enamel coating department is equipped with infra-red batteries of drying lamps and dust-free production compartments. In addition, all De Soto water heaters are equipped with an almost smudgeless pilot light, designed for months of operation without attention. Cleaning the pilot light, when necessary, is said to be accomplished in a matter of minutes, there being but two operations needed to loosen and remove the complete combustion unit.

General Machine Holds Factory Dealer Classes

TO FAMILIARIZE THEIR DEALERS with its new line of high pressure gun type oilburners and a food freezing cabinet, General Machine Co., Inc., Emmaus, Pa., recently completed a three day school of instruction, attended by approximately 200 dealer representatives. Dealers from all parts of the company's distribution area, from Washington, D. C. to Maine, attended the sessions held at the factory, and received detailed instruction on installation, servicing and sales features of the new products.

The new products will be offered in addition to Electric Furnace-Man stokers, manufactured by the company for a number of years. Instruction periods were augmented by tours through the factory to demonstrate production facilities, including a new and enlarged sheet metal and enamelling department.

Revises Sales Program; Celebrates 25th Anniversary

MECHANICAL HEAT & COLD, INC., of Detroit, celebrated its 25th anniversary recently, and announced a revision in their sales program to incorporate many of its activities into one large distributing organization, headed by Alvin O. Frederick as sales manager. The new operation will distribute a complete line of heating and air conditioning equipment throughout Southeastern Michigan, and already is servicing some 75 dealers, primarily with automatic heating equipment. The company distributes York-Heat oilburning equipment, Jackson & Church furnaces, Gas-Vac heating systems and allied lines. It is intended to continue to operate an engineering contract division to design and install larger air conditioning central plant systems.

Mechanical Heat & Cold is still headed by its original founder, Harvey A. Shuler.

A DEALER JUSTLY COMPLAINS ABOUT
ROTOFLAME
Dear John,
Don't blame me for bothering you with my problems. You brought it on yourself when you said "If there was any problems, let us know and we will help you to solve them".
Well, here goes. My problem hits me where it hurts the most—my pocketbook.
I use to do a good oil burner repair and parts business, but since I have taken on the ROTOFLAME, my profits on repairs and parts has been cut to the bone.
Please let me know what you can do to make a burner that might break down once in a while—but not too often at night.
I know you won't let me down.
Your faithful representative,
Earl Heeter
Specialist in Oil Burner Repairs
Exclusive territories available for well-established dealers
OIL EQUIPMENT LABORATORIES, Inc.
ELIZABETH 4 NEW JERSEY

COMFORT is your business
Brundage
BLOWER-FILTER PACKAGE UNITS
Easy to Sell . . . Easy to Install
For homes, schools, churches and commercial or industrial buildings, where controlled circulation of air is essential the year around . . . a Brundage Blower Filter Package Unit will do the job better.
THE Brundage COMPANY
Blower Specialists Since 1919
KALAMAZOO 11, MICHIGAN

THE NEW YORKER

HERE'S the STEEL BOILER for LONG LIFE AND QUIET OPERATION

ALL STEEL, RESIDENCE OIL BURNING BOILER

The success of the NEW YORKER has developed a trend in residence boiler design. But only the NEW YORKER has the features that brought about that success.

Immediate shipment now, complete with jackets, in any quantity. Anticipate your future needs by ordering now to assure your share of NEW YORKERS for the coming heating season.

400 to 1100 Sq. Ft. Radiation

BUILT TO EXCEL IN DEPENDABILITY, LONG LIFE, AND LOW OPERATING COST

TITUSVILLE SALES COMPANY INC.

50 WEST 50th ST., NEW YORK
Circle 6-2861

GENERAL CONTROLS . . .
THE ACKNOWLEDGED STANDARD IN AUTOMATIC PRESSURE, TEMPERATURE AND FLOW CONTROL UNITS

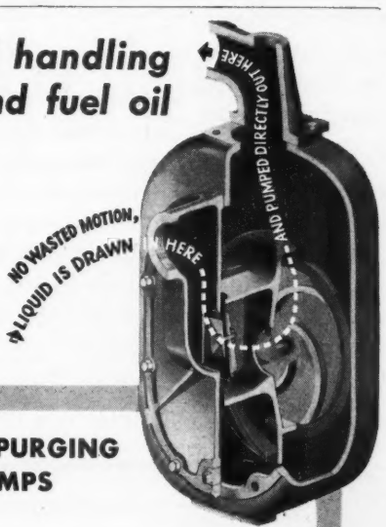
Here are a few of an outstanding line of controls for Industrial, Commercial and Domestic applications.

★ALL-GAS CONTROLS
★AIRCRAFT CONTROLS, ELECTRIC
★AUTOMATIC SAFETY PILOTS
★GAS REGULATORS
★LOW WATER CONTROLS
★GOVERNOR TYPE VALVES
★HI-LOW-OFF VALVES
★INDUSTRIAL VALVES
★LOW PRESSURE GAS VALVES
★MOTOR OPERATED VALVES
★MAGNETIC GAS VALVES
★PILOT BURNERS
★PILOT GENERATORS
★REFRIGERATION VALVES
★SOLENOID VALVES
★STRAINERS—RELAYS
★100% SHUT-OFF VALVES
★THERMOSTATIC CONTROLS
★TRANSFORMERS—SWITCHES
★THERMOVALVES

Controls for air, water, steam, natural, manufactured and liquefied petroleum gases, light and heavy oils, etc., refrigerants such as freon, methyl chloride, sulphur dioxide and ammonia.
A.C. or D.C., normally closed or open types. High and low pressures and temperatures. PROVED AND IMPROVED PERFORMANCE IS PROOF THAT YOU CAN'T BUY BETTER CONTROLS.

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.
Manufacturers of Automatic Pressure, Temperature and Flow Controls
FACTORY BRANCHES AND DISTRIBUTORS IN PRINCIPAL CITIES

For improved handling of gasoline and fuel oil



MARLOW SELF-PURGING PETROLEUM PUMPS

- Centrifugal efficiency combined with positive self-purging action.
- Operate on high suction lifts. *Do not vapor lock.* No parts which require adjustment or manipulation. No auxiliary mechanisms that reduce efficiency and cause maintenance problems.
- ½ to 10-inch sizes. Models for tank truck, terminal, or utility service.

Send for literature and name of nearest distributor.

MARLOW PUMPS
596 GREENWOOD AVE. • RIDGEWOOD, N. J.

HERE'S A HEATER CLEANING COMBINATION HARD TO BEAT!

CLEAN SWEEP

SOOT REMOVER and SPRAYER

HANDY TO USE
SAFE TO USE
NON-CORROSIVE
NON-EXPLOSIVE
FAST ACTING
ECONOMICAL

This ALL PURPOSE Soot Remover remarkably cleans ALL kinds of jobs, pressure, rotary, vaporizing. A trial will win your confidence. Make it your No. 1 Choice. Do not confuse Clean Sweep with any other name.

SPRAYER—a mans size sprayer made of heavy steel that will not corrode when used exclusively with Clean Sweep. Does not pull back sparks. Truly a great convenience.

SEE YOUR JOBBER OR WRITE US.

CLEAN SWEEP CO. P. O. BOX 156 SO. LANSING 9, MICH.

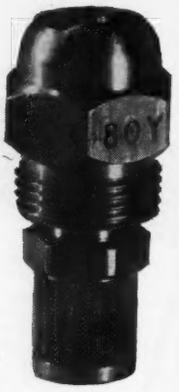
fuel oil & oil heat

Ace Nozzles

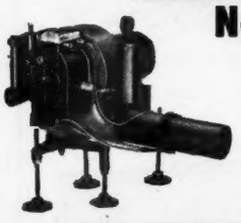
Products of 26 years' experience in the design and production of oil-burners. Extreme Precision—Guaranteed Accuracy.

All Capacities and Angles
"For those who want the best"

Ace Cooperating Engineers
903 Wrightwood Ave. Chicago 14, Ill.
OSCAR C. SCHROEDER, Owner



★ RAYFIELD AUTOMATIC ★



No. 5 OIL BURNERS
REDUCE HEATING COSTS... INCREASE YOUR PROFITS

Burn No. 5 heavy fuel oil. Self contained, all electric. Self-lubricating. Many new exclusive features. Write for full details

GOOD TERRITORIES OPEN

C. L. RAYFIELD CO.
2010-18 S. Halsted St., Chicago 8, Ill.

Founded in 1922 to retail automatic heating equipment, the firm has expanded to complete year 'round heating and air conditioning. Two years ago showrooms and warehouse building were occupied in Highland Park, Mich.

Jas. P. Marsh Announces Firm Policy on Prices

IN PLAIN TERMS OF GUARANTEED PRICES, Jas. P. Marsh Corp., Chicago 1, Ill., has declared a firm price policy in the sale of its products. Any prices of Marsh products quoted during 1947 will not be subject to any increase above the prices in effect on the date the order is placed, according to the announcement.

"We have come to the conclusion that it is about time for buyers to be told what they are going to pay for the products they buy," said Barrett Scudder, president, commenting on the difficult decision reached by the company. He pointed out further that it was felt that the hazards involved in establishing firm prices must be assumed by the manufacturers themselves. Suppliers have been asked to cooperate in the program.

Room of the Month Ideas Begun by American-Standard

AMERICAN - STANDARD has announced Room of the Month Ideas, a folder featuring original room designs. The first in a monthly series has already been distributed, according to H. L. Spindler, manager of advertising and sales promotion.

Each month this booklet will illustrate in full color a different room, taken from current advertisements of American Radiator & Standard Sanitary Corp., and will explain special features of design and construction that can be employed in practical applications. Room of the Month Ideas is standard file size, and its first issue is accompanied by an attractive file folder in which it and succeeding issues may be kept.

Heatcraft Company Formed

HEATCRAFT CO., Louisville, Ky., has been formed, headed by H. E. Culley, formerly with Sun Fire Stoker and Anchor Stove Co. Associated with him are Ella B. Culley, Aart Van den Ende, M. D. Puckett, H. R. Huskamp, J. L. Schlafer and J. D. Robinson.

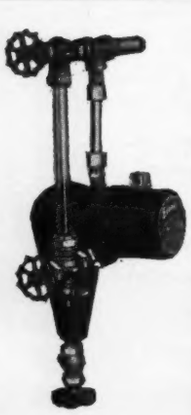
Present plans include a complete line of oilburners, gasburners and stokers, blowers and furnaces for all fuels.

Sola Electric Opens New York Sales Office

SOLA ELECTRIC CO., Chicago 14, Ill., manufacturers of electric transformers, has opened a New York sales office in the Hudson Terminal Building, 50 Church St., New York 17, N. Y.

Morrison Blower Wheels Discussed in Two Catalogs

MORRISON PRODUCTS, INC., Cleveland, Ohio, have ready for distribution Bulletins Nos. 303 and 403. The former describes and explains Morrison's engineering service for the building of blower assemblies in their own plants by original equipment manufacturers. Bulletin No. 403 enumerates performance and construction data for the complete line of various combinations of blower wheels. Both bulletins stress the advantages of Morrison's 3-piece blower wheel construction, two pressed end rings with integral hubs and 1-piece blade group.

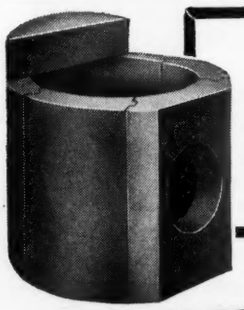


ECONO

Model P (as shown) comes complete with all necessary fittings for gauge glass installation.

Write for complete catalog showing screw-in models for all steam boilers equipped with cut-off tapping.

THE ECONO PRODUCTS CO.
250 Stuart St., Boston 16, Mass.

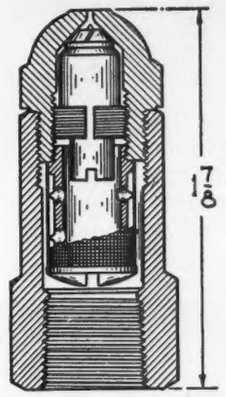


For More Profitable Jobs
NU-TROJAN Combustion Chambers
A Product of McLeod & Henry Co., Inc.

Nu-Trojan Chambers have the features that lower installation costs and reduce servicing costs to help you secure profitable jobs. Has few parts, does not need steel bands to hold them in place. First quality "Steel Mixture" Pennsylvania fire clay. Fusing point 3180° F. Write Dept. 61 for details.

A. R. WEBBER CO., INC.
780 STATE ST.
NEW HAVEN 11, CONN.

EVERYTHING FOR THE OIL BURNER TRADE



IF YOU WANT:

PERFECT ATOMIZATION
POSITIVE RATED CAPACITY DELIVERY
ACCURATE SPRAY ANGLES
FINEST WORKMANSHIP AND MATERIALS
PRECISION IN EVERY DETAIL

YOU WANT

HAGO PRECISION NOZZLES!

HAGO PRODUCTS, 1281 SPRINGFIELD AVE., IRVINGTON 11, N. J.

American-Standard Offers Warm Air Catalogue Section

A NEW WARM AIR HEATING SECTION for American Radiator and Standard Sanitary's General Catalogue has been released. It includes new and redesigned products not shown in the earlier section published in 1939. The new catalogue presents comprehensive data for the company's complete line of all types of warm air heating equipment, with design and construction features described.

With the publication of this new section, the General Catalogue is brought completely up-to-date as a post-war catalogue.

Germicidal Units Subject of Folder

A FOLDER ON COMMERCIAL GERMICIDAL UNITS, issued by Lustra Corp. of America, New York 10, N. Y., illustrates and describes five new models, utilizing ultraviolet radiation to kill airborne germs, viruses and mold-forming spores of many contagious diseases. Shown are two new types of wall units for upper air disinfection, one overhead unit with fluorescent lighting, one plastic-housed portable unit and two open type portable units for individual room sterilization, walk-in refrigerators and food storage rooms.

◈

John F. Chester has been appointed director of public relations, Carrier Corp., Syracuse, N. Y.

GORTON SYSTEM

of
Equalizing and Vaporizing
Existing Steam Heating Systems
for
Automatic Heating

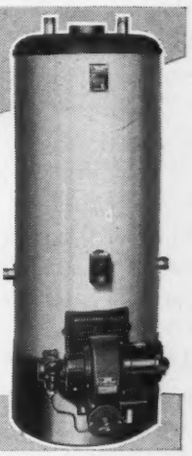
Guaranteed to heat all radiators evenly and quickly on 4 to 8 ounces vapor pressure—no piping changes required.

Prompt Shipments • *Write for Bulletin No. 114*

GORTON HEATING CORP.

CRANFORD — *Since 1887—Mfrs. Heating Equipment* — NEW JERSEY

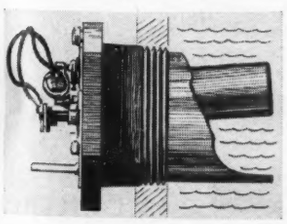
Bock OIL BURNING WATER HEATERS



TWO BURNER TYPES — VAPORIZING WITH ELECTRIC IGNITION FOR THE SMALL JOB—PRESSURE ATOMIZING FOR THE LARGER. THE BEST IN OIL WATER HEATERS.

Bock CORPORATION
MADISON, WISCONSIN

BRONZE CONTROLS
for Permanent Protection



Low Water Cutoffs
and Pressure Controls
Available In Single or Combination Units

Write for further information

NEWARK CONTROLS BLOOMFIELD, NEW JERSEY

STANDARD
Automatic
OIL BURNERS

Twenty Years of Superior Service
Several Territories Available

Write or Wire

STANDARD ARCOIL CORP.
21-23 Broad Street — Newark 4, N. J.

GILLEN

Automatic Oil-Burning

Furnaces—Water Heaters

J. L. GILLEN CO.

DOWAGIAC, MICHIGAN

Sundstrand

All Electric

OIL BURNER

Tested and Proven By Time and Performance

For Dealers Who Want Completely Satisfactory Service

SUNDSTRAND ENGINEERING CO.

ROCKFORD, ILL.

"QUALITY BURNERS FOR 26 YEARS"

Proved Oil Reserves

(*Continued from page 70*)

A.G.A. Committee on Reserves, which has prepared the estimate of condensate contained in this report. The A.P.I. Committee on Reserves has continued to make the estimates of crude oil reserves.

"The estimates in this report, as in all previous annual reports of this committee, refer solely to proved or blocked-out reserves. They include only oil recoverable under existing economic and operating conditions.

"In our reported proved reserves as of December 31, 1944, we showed a total of 668,701,000 barrels of condensate and 19,784,530,000 barrels of crude oil, making a total of 20,453,231,000 barrels. As of December 31, 1945, we showed 884,967,000 barrels of condensate and 19,941,846,000 barrels of crude oil, making a total of 20,826,813,000 barrels. Analagous figures for December 31, 1946 are 1,050,794,000 barrels of condensate and 20,873,560,000 barrels of crude oil, making a total of 21, 924,354,000 barrels. In other words, this figure of 1,050,794,000 barrels of condensate for December 31, 1946, is the A.G.A. Committee's present estimate of condensate reserves in the same fields which were included in previous years by the A.P.I. Committee. If comparison is made between new oil reported in 1946 with new oil reported in earlier years, it should be remembered that the 1946 figures for new oil do not include new condensate which is estimated to be approximately 205,000,000 barrels.

"The estimates made for this report by your committee do *not* include:

"(1) Oil under the unproved portions of partly developed fields.

"(2) Oil in untested prospects.

"(3) Oil that may be present in unknown prospects in regions believed to be generally favorable.

"(4) Oil that may become available by secondary-recovery methods from fields where such methods have not yet been applied.

"(5) Oil that may become available through chemical processing of natural gas.

"(6) Oil that can be made from oil shale, coal, or other substitute sources.

"Proved reserves are both drilled and undrilled. The proved drilled reserves, in any pool, include the oil estimated to be recoverable by the production systems now in operation, whether primary or secondary, and from the area actually drilled up on the spacing pattern in vogue in that pool. The proved undrilled reserves, in any pool, include reserves under undrilled spacing units which are so close, and so related, to the drilled units that there is every reasonable probability that they will produce when drilled.

"In the case of new discoveries, which are seldom fully developed in the first year and in fact for several years thereafter, the estimates of proved reserves necessarily represent but a part of the reserves which may ultimately be assigned to the new reservoirs discovered each year. For a one-well field, where development has not yet gone beyond the discovery well, the area assigned as proved is usually small in regions of complex geological conditions, but may be larger where the geology is relatively simple. In a sparsely drilled field the area between wells is only

OIL SOOT E-Z DESTROYER

WAR ON FUEL OIL WASTE

Simply spray E-Z, and the soot in fire chamber and flues vanishes instantly. Increases efficiency of oil. One trial will convince you. "EASY" TO USE . . . ECONOMICAL TOO!

Makes satisfied customers.
DISTRIBUTORS: *Write for fine proposition.*

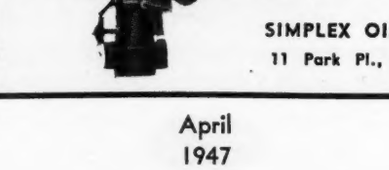
HEALY-RUFF COMPANY, 797 Hampden Ave., St. Paul, Minn.
Enclosed find check ( ) money order ( ) Send the following prepaid:

No. 1 pkg. $1.00
No. 5 pkg. 4.50

Name .....
Address .....
City .....State.....

Since SIMPLEX OIL HEATING CORPORATION SIMPLEX OIL BURNING SYSTEMS REG. TRADE MARK 1910

Simplex Oil Burning Systems



RESULTS COUNT!

SIMPLEX OIL HEATING CORP.
11 Park Pl., New York 7, N. Y.

Manufacturers of Rexoil Conversion Burners, Boiler Units, Furnace Units and Direct-Fired Conditioners

Rexoil Burners have the confidence of over 60,000 users. That's why "you're RIGHT with REXOIL" . . . the line that's easy to sell and STAYS SOLD!

REXOIL

REIF-REXOIL, Inc.
35 Carroll St. Buffalo, N. Y.

PREFERRED

DRAFT-A-JUSTOR

Write for literature and trade price

The Original. Still the Best. Hundreds of Thousands in Use. • Holds the draft constant in the fire box. • Scientific draft control for the smallest to the largest jobs. • Stove, domestic, and commercial sizes from 4" to 24" in diameter. • Industrial sizes from 24" x 24" to 5' x 12'.

PREFERRED UTILITIES Mfg. Corp.
1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
Normal	*1946*	*1947*	*Percent Change**		*Normal*	*1946*	*1947*	*Percent Change**
1174	1206	1224	+ 4.3	Albany	4862	5197	4677	— 3.8
568	491	739	+30.1	Atlanta	2405	2441	2204	— 8.4
844	751	959	+13.6	Baltimore	3413	3276	2955	—13.4
1027	1050	992	— 3.4	Boston	4215	4339	3745	—11.2
1168	1130	1216	+ 4.1	Buffalo	4772	4895	4335	— 9.2
1085	1020	1244	+14.6	Chicago	4539	4850	4383	— 3.4
905	738	1030	+13.8	Cincinnati	3806	3737	3635	— 4.5
1074	962	1186	+10.4	Cleveland	4389	4442	3997	— 8.9
445	345	590	+32.6	Dallas	1985	1917	1905	— 4.0
900	821	962	+ 6.9	Denver	4198	4165	4197	..
1143	973	1310	+14.6	Des Moines	4893	5030	4691	— 4.1
1141	1077	1192	+ 4.5	Detroit	4738	4709	4261	—10.1
1150	1102	1193	+ 3.7	Grand Rapids	4855	4859	4350	—10.4
1062	1105	1077	+ 1.4	Hartford	4425	4758	4070	— 8.0
1155	968	1058	— 8.4	Helena	5566	5318	5914	+ 6.3
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971	918	1204	+23.9	Pittsburgh	4042	4219	3796	— 6.1
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622	628	557	—10.5	Portland, Ore.	3073	2959	3359	+ 9.3
1032	1008	982	—48.5	Providence	4292	4411	3761	—12.4
865	699	1026	+18.6	St. Louis	3593	3745	3386	— 5.8
868	856	745	—14.2	Salt Lake City	4176	4421	4500	+ 7.8
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1478	1479	1426	— 3.5	Sault Ste. Marie	6284	6494	6027	— 4.1
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considered to be proved if the information regarding the geology of the field and the productive horizon is adequate to assure that such area will produce when drilled. The total of new oil through discoveries estimated as proved in any given year is comparatively small and the total of new oil through extensions is comparatively large. As knowledge of the factors affecting production and well performance become available, and as these factors are studied, reserves in older fields can be estimated with greater precision and revised accordingly. Therefore, the oil assigned to new discoveries, plus the oil proved through extensions, comprises the total quantity of the new proved reserves for the year.

"The committee again wishes especially to stress the fact that its estimates of proved reserves cannot be used as a meaure of the rate at which these reserves can be produced with or without physical waste. Oil cannot be produced from the permeable rocks in which it occurs at any desired rate, because the flow of oil through the pores of the oil-bearing rocks is definitely controlled by the physical factors of the reservoir. As a matter of fact, today's known oil can be recovered only over a period of many years and at gradually declining annual rates. This has been widely demonstrated by past performance under all kinds of operating conditions. Therefore, only incorrect conclusions as to the life of these estimated reserves can be obtained by dividing these reserves by the current rate of production.

"For comparative purposes we append a summary tabulation (Table 3) of the overall figures contained in the committee's annual reports covering the period from 1937 to 1946, inclusive. Figures for 1935 and 1936, which were the first developed by the committee, are not available separately."

◈

Bernard A. Munn has assumed the position of general sales manager, Cascade Mfg. Co., Culver City, Calif. He has been active in the southern California area for the past 25 years, and comes to Cascade from the Sunbeau Heater Co., Los Angeles, where he was director of sales.

J. Howard Pew, president of Sun Oil Co. for 35 years, resigned on March 18, "to have more time to devote to my personal affairs," according to a statement made to the Board of Directors. He will continue to serve as a director. *Joseph N. Pew, Jr.* was elected chairman of the Board of Directors and *Robert G. Dunlop* became president of Sun Oil Co., succeeding Mr. Pew. At the same time, *Clarence H. Thayer* became a vice president and *Donald P. Jones,* comptroller. On Mr. Pew's recommendation an executive committee was created and the Board of Directors increased from eleven to fifteen members. *Arthur E. Pew, Jr.,* also resigned as vice president in charge of manufacturing, but will continue as a director.

Henry Rowold has been appointed assistant general sales manager, Mack-International Motor Truck Corp. Also a vice president of the company, Mr. Rowold combines his new duties with those of national accounts manager, a position he has held for some time.

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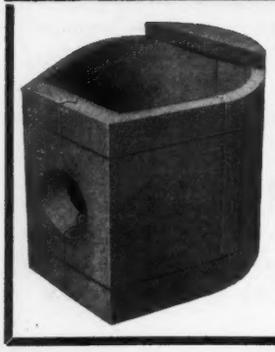

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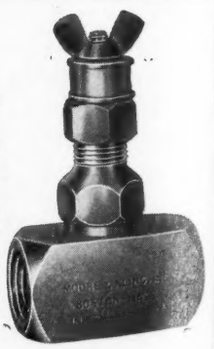

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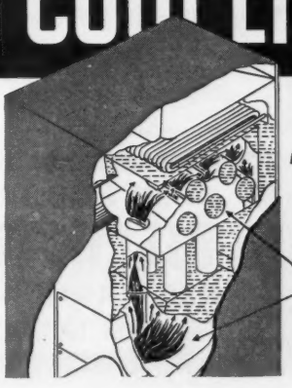

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ADVERTISERS' INDEX

—A—

Ace Cooperating Engineers 140
Acme Heat & Power, Inc. 15
Aldrich Company 13
American Oil Burner Corp. 145
American Radiator & Standard Sanitary Corp. 17
American Telephone and Telegraph Co. 48
Anchor Post Products Inc. 29
Applied Mechanics 81
Atlantic Burner Supply Co. 130
Atlantic Refining Company, The 35
Audel, Publishers 126
Autocar 34
Auto-Heat Corp. 77
Automatic Burner Corp. 37

—B—

Babcock & Wilcox Co., The 96
Bacharach Industrial Instrument Co. 130
Balloffet Dies & Nozzle Co., Inc. 136
Beckett Engineering Company, R. W. 124
Bell & Gossett Company 119
Bock Corporation 141
Brodie Co., Inc., R. N. Inside Front Cover
Brundage Co., The 138
Burnham Boiler Corp. 113

—C—

Century Engineering Corp. 19
Clark-National Oil Burner Corp. 80
Clayton & Lambert Mfg. Co. 32
Clean-Sweep Company 139
Cleveland Humidifier Co., The .. 137
Cleveland Steel Products Corp. (Toridheet) 99
Coastal Oil Company 117
Cole-Sewell Engineering Co. 133
Combustion Utilities Corp. 104
Cuno Engineering Corp. 103

—D—

Debler & Sons, William J. 128
Delavan Engineering Co. 86
Delco Appliance 47
De Soto Oil Burner Corp. 31
Detroit Lubricator Company 67
Dielectric Products Co., Inc. 146
Dongan Electric Mfg. Co. 114
Dwyer Mfg. Co., F. W. 122

—E—

Econo Products Co., The 140
Eddington Metal Specialty Co. .. 27
Evans Products Company 49

—F—

Federal Boiler Co., Inc. 121
Field Control Division 23
Fitzgibbons Boiler Co., Inc. 118
Flexible Coupling Mfg. Co. 126
Ford Motor Company 25

—G—

General Controls 139
General Electric Co. 79, 135
General Filters, Inc. 83
General Fittings Company 40
Gilbert & Barker Mfg. Co. 39
Gillen & Co., J. L. 142
Goodall Rubber Co., Inc. 116
Gorton Heating Corp. 141

—H—

Hago Products 141
Harvey, Inc., Sid 44, 100
Harvey-Whipple, Inc. 20
Hayward Mfg. Co., Inc. 146
Healy-Ruff Company 142
Heil Co., The 87
Henry Furnace Co., The 14
Herco Oil Burner Corp. 78
Hoffman Specialty Co. 85
Homease Products Division, Inc. . 123

—I—

Instant Heat Oil Burner Corp. .. 26
Insulation & Refractories Co. ... 135
Iron-Hide Refractory Products .. 112

—J—

Jefferson Electric Company 12
Johnson Co., S. T. 92

—K—

Kenite Laboratory, Inc. 144
Kewanee Boiler Corp. 95
Klemm Automotive Products Co. 125
Kraissl Company, The 134
Kresky Mfg. Company 88
Kresno-Stamm Mfg. Co. 135

—L—

Liquidometer Corp., The 134
Little Burner Co., H. C. 6
Lovejoy Flexible Coupling Co. .. 108

—M—

Mack Trucks, Inc. 43
Maid-O-Mist, Inc. 137
Manning and Lewis 146
Marine Mfg. Company 41
Marlow Pumps 139
May Oil Burner Division 105
McDonnell & Miller, Inc. Inside Back Cover
Mel-Products Company 115
Minneapolis-Honeywell Regulator Co. .....Back Cover
Monarch Mfg. Works, Inc. 106
Monogram Combustion Cham. Co. 144
Moore & Kling, Inc. 144
Morrison Steel Products, Inc. .. 101

—N—

National Radiator Co., The 36
Neptune Meter Company 21
Newark Boiler Regulator Co. .. 141
New York Air Valve Corp. (Dixon Oil Gauge Division) 132
Norge-Heat Division 71

—O—

Ohio Electric Mfg. Co., The .. 120
Oil Devices 107
Oil Equipment Laboratories, Inc. 138
Olsen Mfg. Co., The C. A. 109

—P—

Paragon Oil Burner Corp. 133
Paragon Oil Company 122
Penn Boiler & Burner Mfg. Corp. 22
Penn Electric Switch Co. 30
Perfex Corporation 50
Petroleum Heat & Power Co. .. 111
Pezzillo Pump Co. 46
Philadelphia Valve Company .. 42
Polo Pump Company 129
Preferred Utilities Mfg. Corp. .. 143

—Q—

Quiet Automatic Burner Corp. .. 91

—R—

Rayfield Co., C. L. 140
Refractory & Insulation Corp. .. 110
Reif-Rexoil, Inc. 143
Reynolds Electric Co. 131
Rheem 73
Ridgefield Chem. Prods. Co., Inc. 33
Rochester Mfg. Co., Inc. 28
Rudy Furnace Co. 129

—S—

S.O.S. Products Co., Inc. 118
Sampsel Time Control, Inc. 131
Scully Signal Co. 9
Shell Oil Company, Inc. 7
Silent-Flame Mfg. Co., Inc. 94
Silent Glow Oil Burner Corp. .. 69
Simplex Oil Heating Corp. 142
Socony-Vacuum Oil Co., Inc. .. 102
Standard Arcoil Corp. 141
Sundstrand Engineering Co. 142
Sundstrand Pump Division 3
Super Electric Products Corp. .. 24

—T—

Taco Heaters, Inc. 93
Teesdale Mfg. Company 136
Thatcher Furnace Company 90
Therm Oil Burner Co. 143
Thrush & Co., H. A. 82
Timken Silent Automatic Division 84, 144
Titusville Sales Company 139
Torrington Mfg. Co., The 18
Triplex Heating Specialty Co., Inc. 120
Tuthill Pump Company 38

—V—

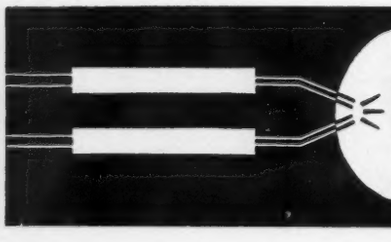
Viking Mfg. Corp. 45
Viking Pump Company 132

—W—

Waterman-Waterbury Co., The .. 97
Watts Regulator Company 16
Wayne Home Eqpt. Co., Inc. .. 131
Webber Co., Inc., A. R. 140
Webster Electric Company ...74, 75
Westcott-Alexander, Inc. 125
Williams Oil-O-Matic Div. 4

—Y—

Yula Water Heaters, Inc. 89



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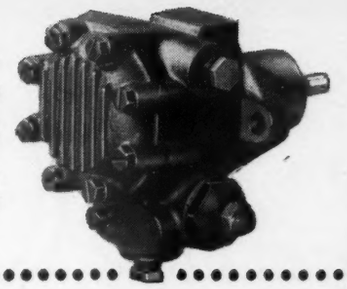

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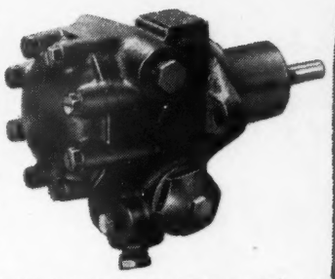

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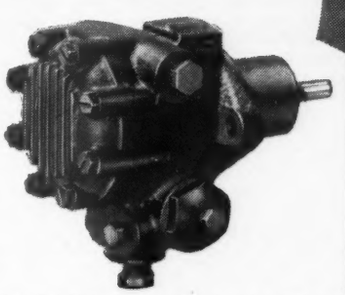

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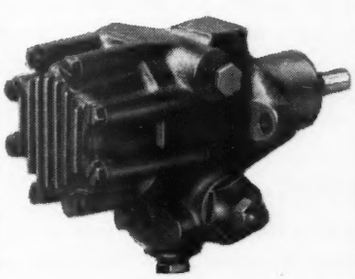

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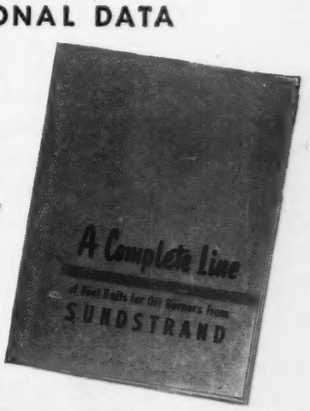
FREE ADDITIONAL DATA

This booklet will give you more complete details on the Sundstrand line. Use it for a handy reference on those unusual jobs that come up now and then. Write for your copy today. Ask for Bulletin F16.



SUNDSTRAND MACHINE TOOL CO. ROCKFORD, ILLINOIS, U.S.A.

SUNDSTRAND PUMP DIVISION

2556 ELEVENTH STREET • ROCKFORD, ILLINOIS

FUEL UNITS • HYDRAULIC PUMPS • TRANSMISSIONS • FLUID MOTORS • VALVES and CONTROLS

YES SIR IT'S A FACT—

IN THE LAST 3 MONTHS ALONE

OUR DEALERS HAVE INSTALLED MORE OIL-O-MATICS THAN IN

ALL OF 1941*

DEMAND WITHOUT PARALLEL

The demand for all oil burners has been great . . . but with Oil-O-Matic it has been without parallel. And this Oil-O-Matic demand seems to have no limit, for now, when unknown brands are being warehoused, Oil-O-Matic dealers are still not catching up, despite the fact that Oil-O-Matic is giving them

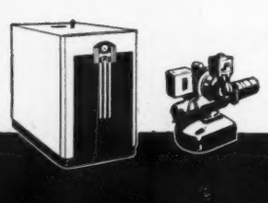
PRODUCTION WITHOUT PRECEDENT

In 1946, Oil-O-Matic produced burners at 3 times the 1941 rate . . . a much greater increase than the industry average. And because even this rate now has been doubled, Oil-O-Matic dealers are making

INSTALLATIONS AT THE HIGHEST RATE EVER

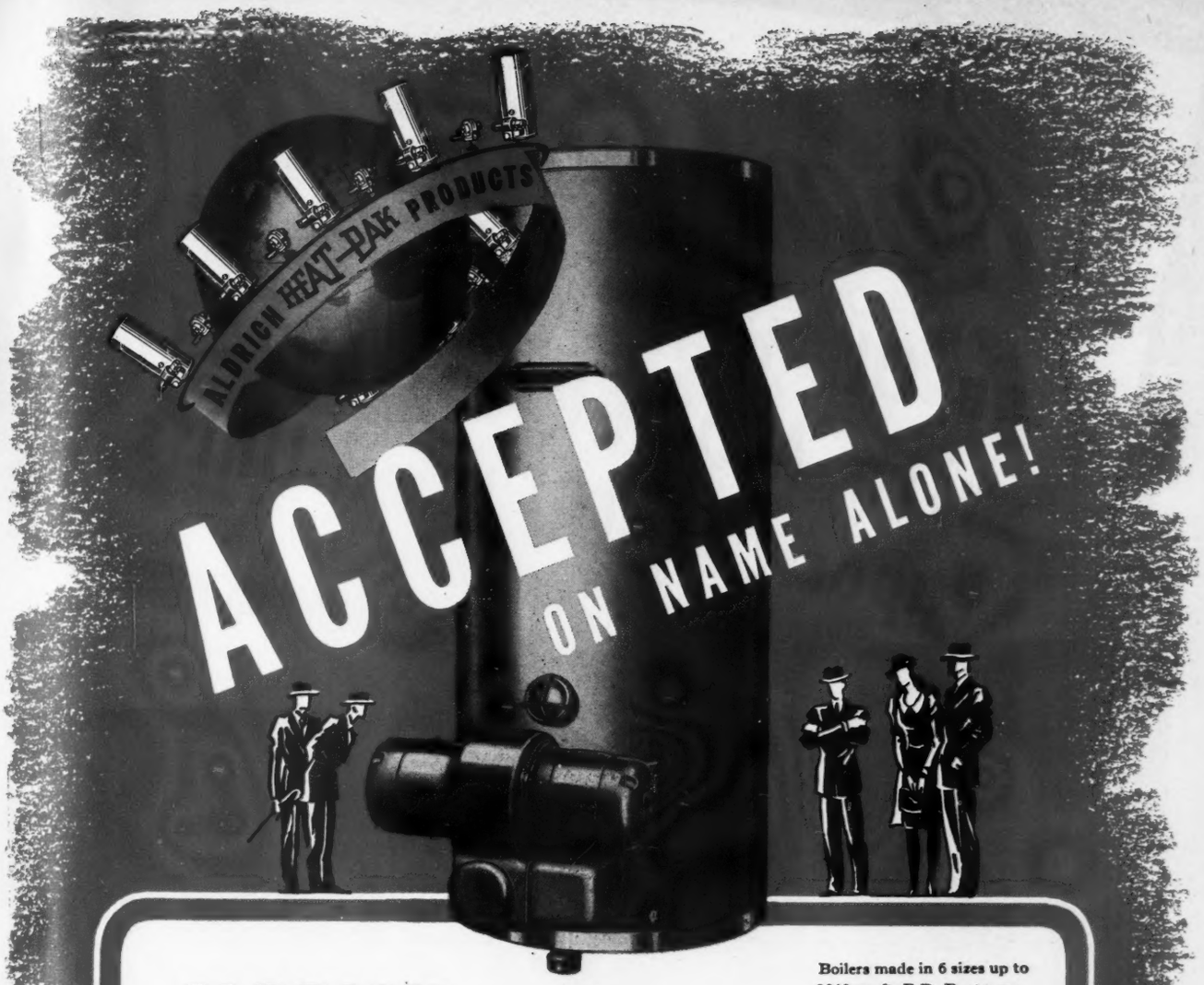
Check the facts and you'll find that, during the first quarter of 1947, more Oil-O-Matics have been installed than in all of 1941. It is this kind of *demand, production* and *sale* that makes Oil-O-Matic the world's most valuable oil burner franchise!

*** *The industry's biggest pre-war year***



WILLIAMS
OIL-O-MATIC
HEATING SYSTEMS

WILLIAMS OIL-O-MATIC DIVISION, Eureka Williams Corporation, BLOOMINGTON, ILLINOIS



Boilers made in 6 sizes up to 3040 sq. ft. E.D. R. steam.

ALDRICH HEAT-PAK OIL BURNERS AND BURNER-BOILER UNITS . . .

Model AX .75 to 5.00 G. P. H.
Model BX 4.00 to 9.00 G. P. H.
Jumbo 5.00 to 19.00 G. P. H.

. . . because the name, ALDRICH, means quality! It is a reputation attained after years of manufacturing experience, engineering leadership, designing skill. For conclusive proof of performance and efficiency on the job, Aldrich HEAT-PAK products were standard equipment in U. S. Insular Bases. Aldrich, the leading oil burner manufacturer, *guarantees* satisfactory performance!

Because Aldrich will not sacrifice standards of quality, production will be slow until the shortage of good materials is overcome.

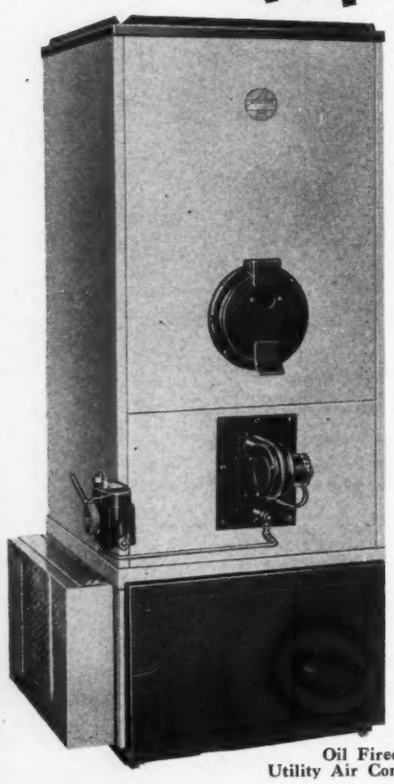
ALDRICH COMPANY

WYOMING ILLINOIS

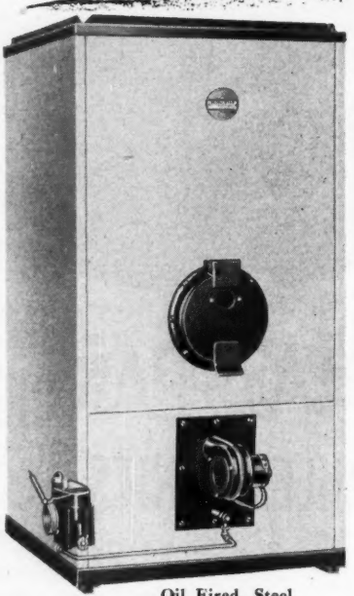
KNOWN and USED the WORLD AROUND!

fuel oil & oil heat

Now! Cash in on OIL HEATING Sales with MONCRIEF'S 1947 Vaporizing Oil Fired Units



Oil Fired, Steel,
Utility Air Conditioning Unit



Oil Fired, Steel,
Gravity Unit

Oil Fired, Steel,
Air Conditioning Unit

Here's your opportunity to cash in on the greatest profit-making, market-demand for oil-fired heating equipment.

This new, distinctive Moncrief line of vaporizing oil-fired heating and air conditioning units with baked enamel cabinets—combustion chamber with automatic, submerged arc welded seams—and the revolutionary design that allows the remarkably easy installation or removal of the complete burner assembly without dismantling the cabinet or the heating element, will enable you to get your share and more of this profitable, desirable business.

Tie in with Moncrief, the profit-making, customer-satisfying line for over 50 years.

Write for complete information and the name of your nearest dealer

THE HENRY FURNACE COMPANY • *Medina, Ohio*

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1893 — FURNACE PIPE AND FITTINGS

ACME—THE OIL BURNER WITH THE TURBOSTAT HEAD

LIMITED NUMBER FOR **IMMEDIATE DELIVERY**

FROM MONROE, N. Y.
"We have installed two Acme Oil Burners in conversion type jobs. One boiler, firing two gallons per hour, showed the following reading upon test:

Draft—plus 2
Stack temperature—425°
CO_2—12% without visible smoke.

This particular job was installed in a boiler about 20 years old, with an 8" brick chimney.

The other job was in an estate and fired three gallons per hour. The reading showed:

Draft—plus 4
Stack temperature—380°
CO_2—13½% without visible smoke.

This is also in a boiler that had been existing about 15 years."

FROM BROOKLYN, N. Y.
"The writer has had the pleasure of installing some of your oil burners and am pleased to state that they are very satisfactory."

FROM UTICA, N. Y.
"You may ship us six of the 5 gallon jobs mentioned in our letter of February 6.

We have installed two of your burners and the results are excellent—very quiet in operation with 11½ CO_2 and 500 degree stack.

We are now on the air three times a week besides running a daily ad in the newspaper."

PROOF THAT ACME PERFORMS

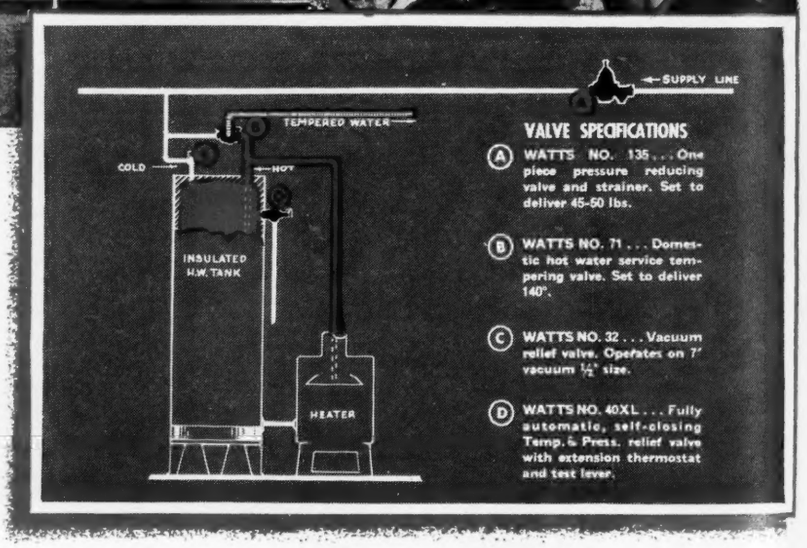
Acme burners are available in a complete line of models ranging from 1 to 15 g.p.h.... a model for every type of installation. Exclusive dealer franchises are open in some territories. Write for information at once.

GET THE BENEFIT OF **ACME** *18 YEARS' FIELD EXPERIENCE*

ACME HEAT & POWER, INC.
318 TEN EYCK STREET
BROOKLYN 6, N. Y.
Evergreen 8-2500

Safety in the Home is...

FOREMOST IN MODERN LIVING


SUPPLY LINE
TEMPERED WATER
COLD
HOT
INSULATED H.W. TANK
HEATER
VALVE SPECIFICATIONS
A WATTS NO. 135 . . . One piece pressure reducing valve and strainer. Set to deliver 45-50 lbs.
B WATTS NO. 71 . . . Domestic hot water service tempering valve. Set to deliver 140°.
C WATTS NO. 32 . . . Vacuum relief valve. Operates on 7" vacuum ½" size.
D WATTS NO. 40XL . . . Fully automatic, self-closing Temp. & Press. relief valve with extension thermostat and test lever.

A typical source of potential danger in many homes is the domestic hot water supply system. Though the system may provide an efficient supply of hot water, it is very important that the system be protected with adequate safety and control devices to safeguard against explosion and scalding, as illustrated.

It would be tragic for this family, apparently well situated in plumbing and heating conveniences, to have their home demolished by explosion, with possible loss of life, as a result of inadequate protective devices on the domestic hot water supply system.

Watts is the world's largest manufacturer of automatic safety temperature and pressure relief valves to protect domestic hot water supply tanks from explosion.

Check with Watts for PROTECTION and recommendations

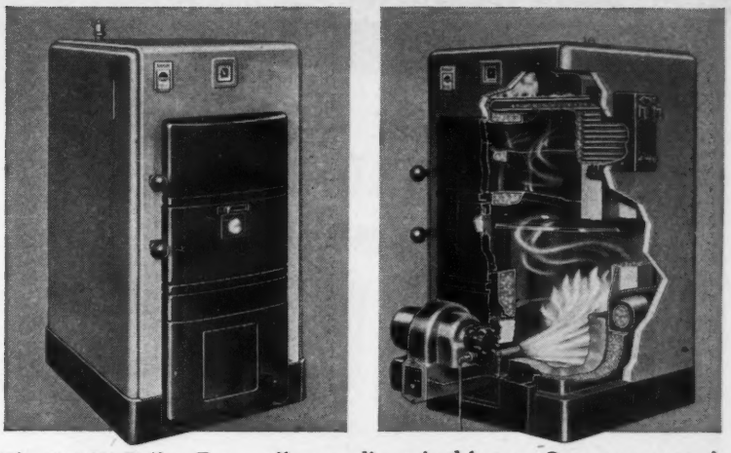
WATTS REGULATOR COMPANY
LAWRENCE, MASSACHUSETTS

WATTS

Automatic · TEMPERATURE *and* PRESSURE REGULATING SAFETY DEVICES ·

... PROTECT-CONTROL.

You Sell Products that are First in Quality



The **SEVERN** Boiler. For small or medium sized homes. Operates economically with the Arcoflame or any other good oil burner. Scientifically proportioned air-tight combustion space burns oil efficiently without waste. Extra large 7-inch top nipples placed partially below water line permit use of tank or tankless type water heater. Permanent iron-to-iron fit of all sections and flues prevents air infiltration or escape of odors. Burner may be installed either in front or rear.

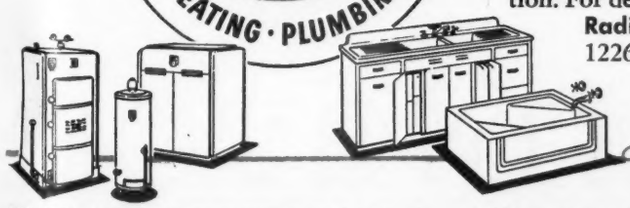
...and First in the Minds of Your Customers

The **ARCOFLAME** Oil Burner is noted for its fuel-saving "Sunflower" flame, and such important features as the Turbometer which meters and whirls the air into the combustion chamber to give clean and complete combustion . . . the Flo-Stat that regulates the oil flow . . . the Arco-Mute Tube that carries the correct amount of oil to the nozzle . . . and the Flame Stabilizer which permits precise adjustment and regulation of burner flame while burner is in operation. Available in capacities of from 3 to 7 gallons per hour, the Arcoflame burns low cost No. 2 or No. 3 oil or Pacific Coast Diesel Oil.

When you sell AMERICAN-Standard

HEATING EQUIPMENT

AMERICAN-Standard HEATING · PLUMBING

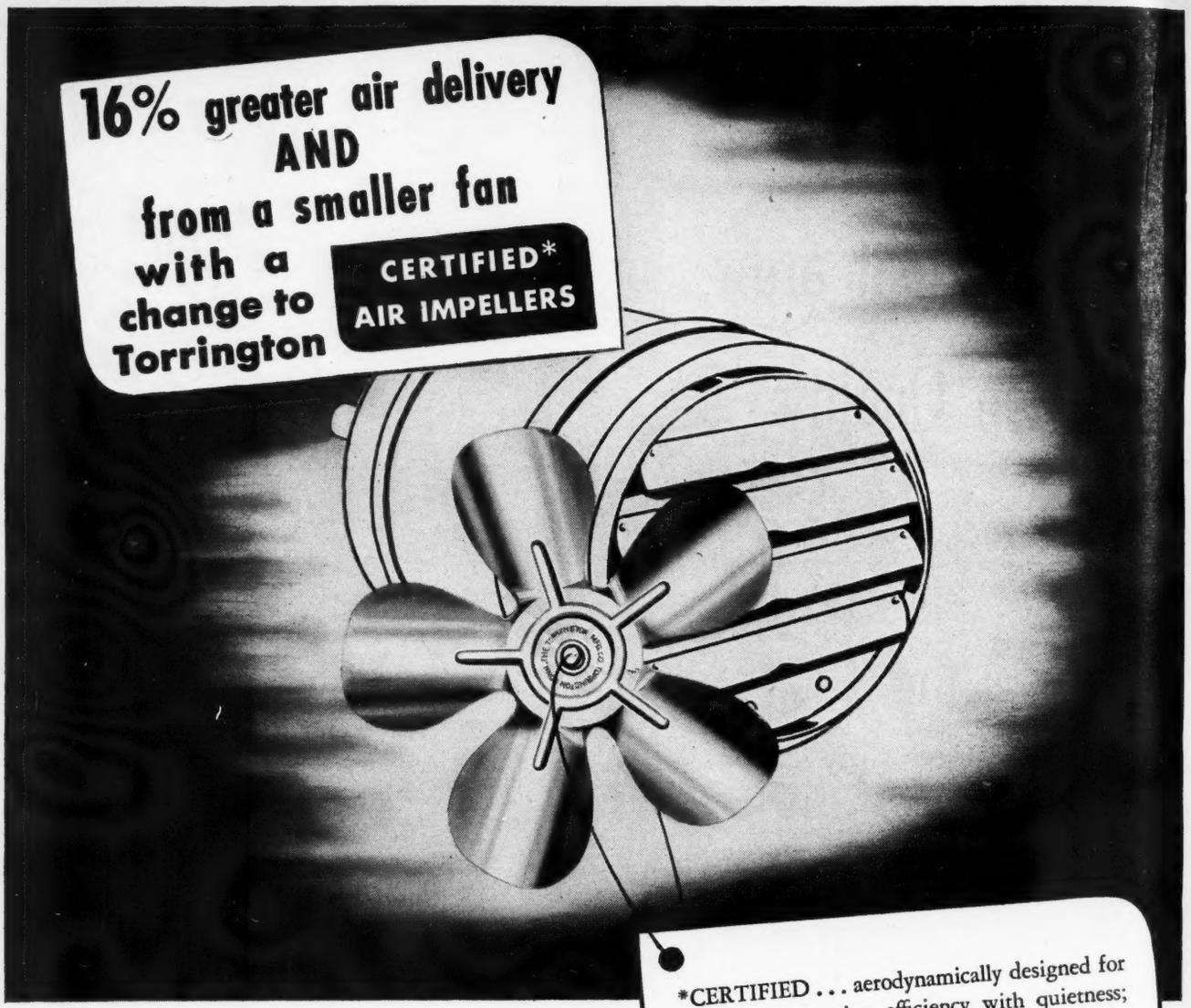


■ The quality of American-Standard Heating Equipment is second to none in smart styling . . . in engineering . . . in construction. Furthermore, its efficiency and economy have been proved beyond question in millions of installations. But American-Standard doesn't stop at making better products. It backs you up with a big promotional program, including full color advertisements in 14 leading national magazines. In addition, you can sell for modernization on the convenient Time Payment Plan of the Heating & Plumbing Finance Corporation. For details, contact your Wholesale Distributor. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pennsylvania.

Serving the Nations' Health and Comfort

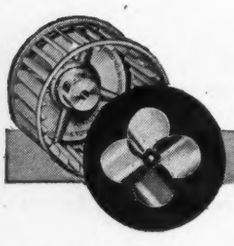
LOOK FOR *THIS MARK OF MERIT*—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.

fuel oil *is* oil heat


16% greater air delivery
AND
from a smaller fan
with a change to Torrington
CERTIFIED* AIR IMPELLERS
*CERTIFIED . . . aerodynamically designed for maximum operating efficiency with quietness; guaranteed to perform as rated under NAFM and NEMA Test Code conditions; hand gauged for uniform contour, alignment and balance. The Torrington Manufacturing Company.

"Will one of your fan blades improve the air delivery of my auto heater?" asked a manufacturer. Into the Torrington laboratory went the problem and Certified Air Impellers produced these results. The former fan, six blades and 7½ inches in diameter, delivered 286 c.f.m. at 0" static pressure. A Torrington Airistocrat fan stepped up air delivery to 332 c.f.m. at 0" static pressure and the Torrington fan is only 7" in diameter with five blades. Both ratings were made at 1725 r.p.m.

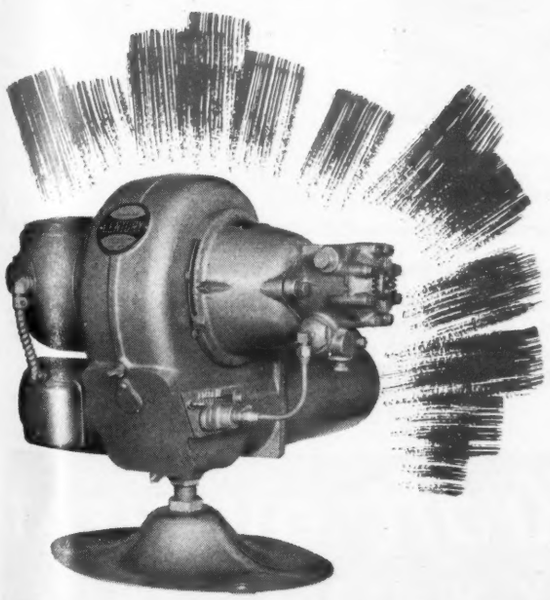
Through the help of Certified Air Impellers, product-improving, money-saving results like these are benefiting manufacturers, their dealers, and the product user every day. For best results, it will pay you to consult The Torrington Manufacturing Company while your new product is still in the early stages of design.



THE TORRINGTON
MANUFACTURING COMPANY, TORRINGTON, CONNECTICUT

AIRISTOCRAT FAN BLADES • AIROTOR BLOWER WHEELS • IMPROVE PRODUCT PERFORMANCE

Like a dependable precision-built CENTURY



Again the customer may be choosey. No longer does he place his order for "just an oil burner." Now he questions, "Which is best?"

Dealers can always be proud to recommend a Century Model "L"—the burner that is quiet in operation . . . has low service cost . . . that through the genius of Century engineering employs a burning principle cutting down fuel consumption 15% to 30% . . . and that comes in a variety of sizes and capacities allowing you to meet every installation need. Be on the safe side—inquire about a profitable Century franchise.

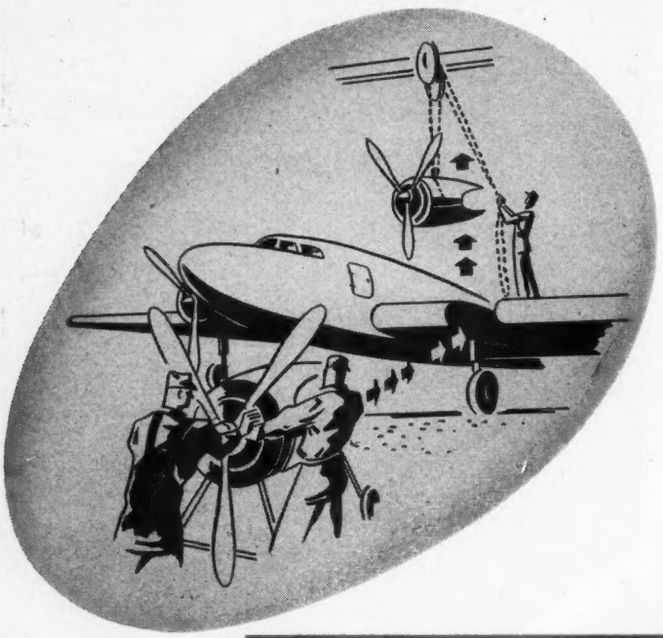
Domestic water units and boiler burner units have been temporarily discontinued from our line due to material shortages.

CENTURY
Engineering Corporation
CEDAR RAPIDS, IOWA

OIL BURNERS • BOILER-BURNER UNITS • WARM AIR FURNACES
HUMIDIFIERS • WATER HEATERS • AIR CONDITIONING

fuel oil & oil heat

POWER EGGS



Changing power egg on aircraft—a new *quick - change* idea.

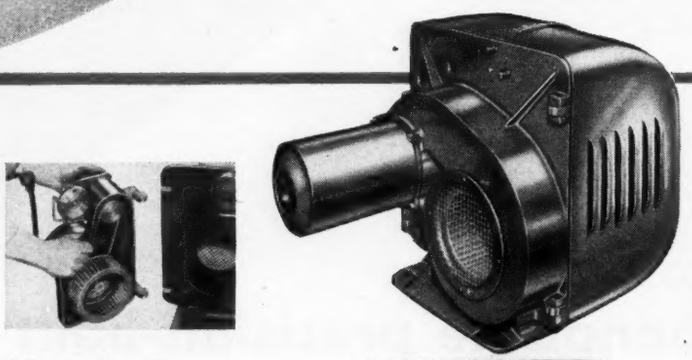
NOW APPLIED TO OIL BURNERS

QUICK-CHANGE SERVICE UNITS SAVE TIME, WORK

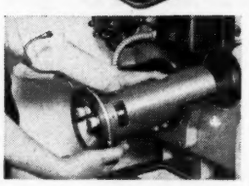
The Power Egg makes possible a complete aircraft engine change in twenty-seven minutes—an operation formerly requiring eight hours! Cuts service costs to a minimum, keeps flights on schedule.

Same quick-change principle is used on the new Master Kraft conversion burner. The motor, pump or transformer can be changed *in two minutes*. The whole combustion head removed *in a minute and thirty seconds!*

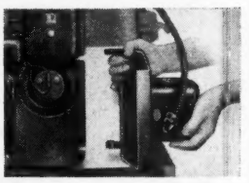
THIS IS MODERN ENGINEERING APPLIED TO OIL BURNERS! THE MOST SENSATIONAL ADVANCE IN 20 YEARS!



Pull two pins and remove the service unit, replace it with a new one. The entire quick-change takes only two minutes!



The entire combustion head may be quickly withdrawn for inspection or servicing *in one minute and thirty seconds.*



The transformer can be replaced with a new one in *two minutes* with this QUICK, EASY, SIMPLIFIED SERVICE.

THIS MARVELOUS NEW BURNER will be ready to roll off our production lines, as soon as materials are available. MEANTIME we are continuing to manufacture our popular pre-war type of burner, the well-known Master Kraft—Models T thru M2 (Model T shown at right).

HARVEY-WHIPPLE, INC.
Dept. FO-10, Springfield, Massachusetts
Gentlemen:
Please send me full details on a Master Kraft Franchise.

Name .....
Address ..... State .....
City .....

Master Kraft OIL HEAT

Manufactured by HARVEY-WHIPPLE, INC.

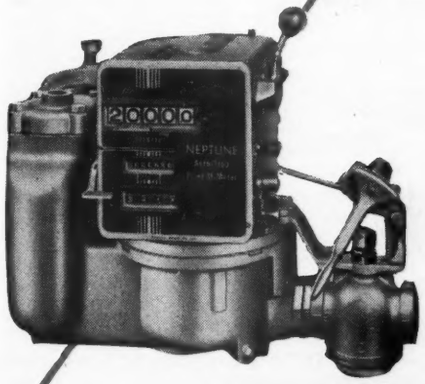
SPRINGFIELD 1, MASSACHUSETTS

PRINT-O-METER

PUTS THE EVIDENCE IN YOUR FAVOR

Fuel oil customers buy from you first of all on the basis of SERVICE. So everything you do to give them what they want adds to your prestige as a reliable business man. That is why Neptune recommends the Red Seal Meter with Print-O-Meter Register for every fuel oil truck.

Let the Print-O-Meter build confidence and good-will for you. It can and will do it by printing a ticket receipt or invoice that duplicates the Neptune Meter reading exactly. It can't do otherwise because the visible registration of the meter is perfectly synchronized with the Print-O-Meter mechanism. Get all the profit facts about the Red Seal Meter with the Print-O-Meter Register. Write Neptune today.



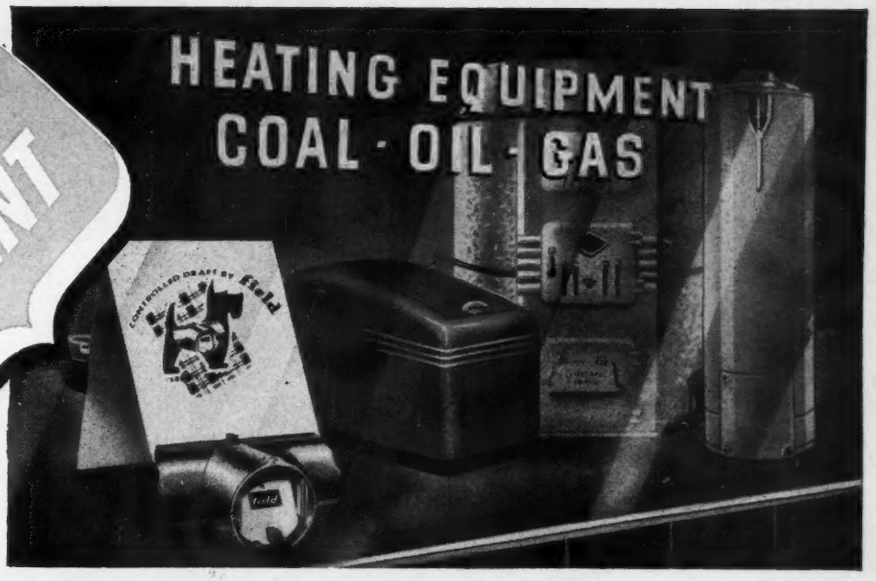
Two-inch "Compact Type" Neptune Red Seal Meter with Print-O-Meter Register and the Auto-Stop. This combination gives you unsurpassed metering accuracy, a fool-proof ticket-printer, and the time and labor saving advantages of automatic deliveries.

NEPTUNE RED SEAL METERS

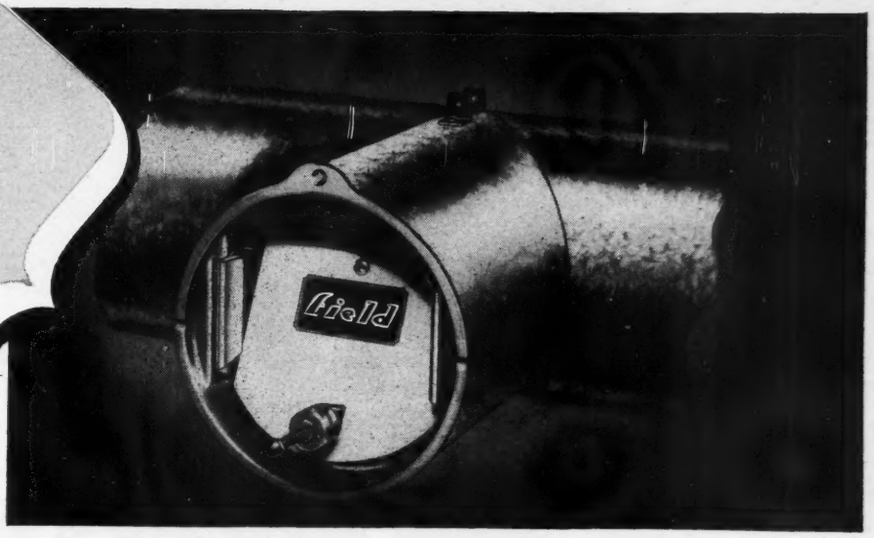
NEPTUNE METER COMPANY
50 West 50th Street • New York 20, N. Y.
Branches: Atlanta, Boston, Chicago, Dallas, Denver, Kansas City, Mo., Los Angeles, Louisville, Philadelphia, Portland, Ore., San Francisco, and Long Branch, Ontario A654A

A Package-ful of Sales Support...
for
PENN
PACKAGED HEAT
DEALERS
Have you *all* of these Penn aids that help to keep consumers happy? Check —then ask to see samples or order today.
1. New series of newspaper mats—large and small sizes.
2. Window display card mounted on easel.
3. "The Story of Penn Packaged Heat." 8-page, 2-color booklet that's ideal for answering consumer inquiries.
4. Pensteel Boiler folder. For consumers interested in a boiler especially designed for automatic heating.
5. Specification Sheets. On Boiler-Burner Unit; Vaporaire (Split System); Winter Air Conditioner.
6. Radio Spot Announcements.
7. Data Booklet for Builders.
8. Blotters.
9. Envelope enclosures.
10. Small illuminated "Packaged Heat" sign.
Coming Soon!
First Penn National Magazine Consumer Advertising! Watch for Announcement!
PACKAGED HEAT
Export Office
80 Broad Street
New York 4, N. Y.
Ontario Representative
R. G. Dibble Company
Toronto, Canada
Canadian Distributor
(Exclusive of Ontario)
Actrite Equipment Company
768 St. Paul St., West,
Montreal 3, Canada
PENN BOILER and BURNER MFG. CORP.
LANCASTER, PENNSYLVANIA

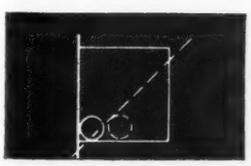
ON THE FINEST HEATING EQUIPMENT



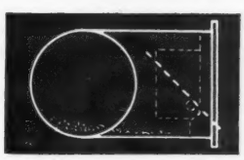
DRAFT IS CONTROLLED by field



The famous Field design

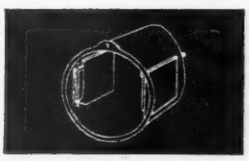


ROLLING TYPE HINGE PIN
— means no friction, no binding, no need for oiling, no fear of corrosion. Note the off-center gate mounting.



EXTENDED HOUSING
— places gate outside the flow of fouling soot and gases — no warping, no binding.

SIDE WINGS
— mean greater accuracy throughout the full range of the control. Fuel savings range up to 25%!



● **Because so much depends on proper control of drafts, leading heating equipment manufacturers are selecting the Field Barometric Draft Control as standard equipment. And alert dealers are installing Field Controls in all hand-fired furnaces in their territories. The installation is highly profitable, and provides a "door opener" for future sales of automatic heating equipment. Write today for facts on the Field line — most efficient, most accurate, most reliable draft controls made today.**

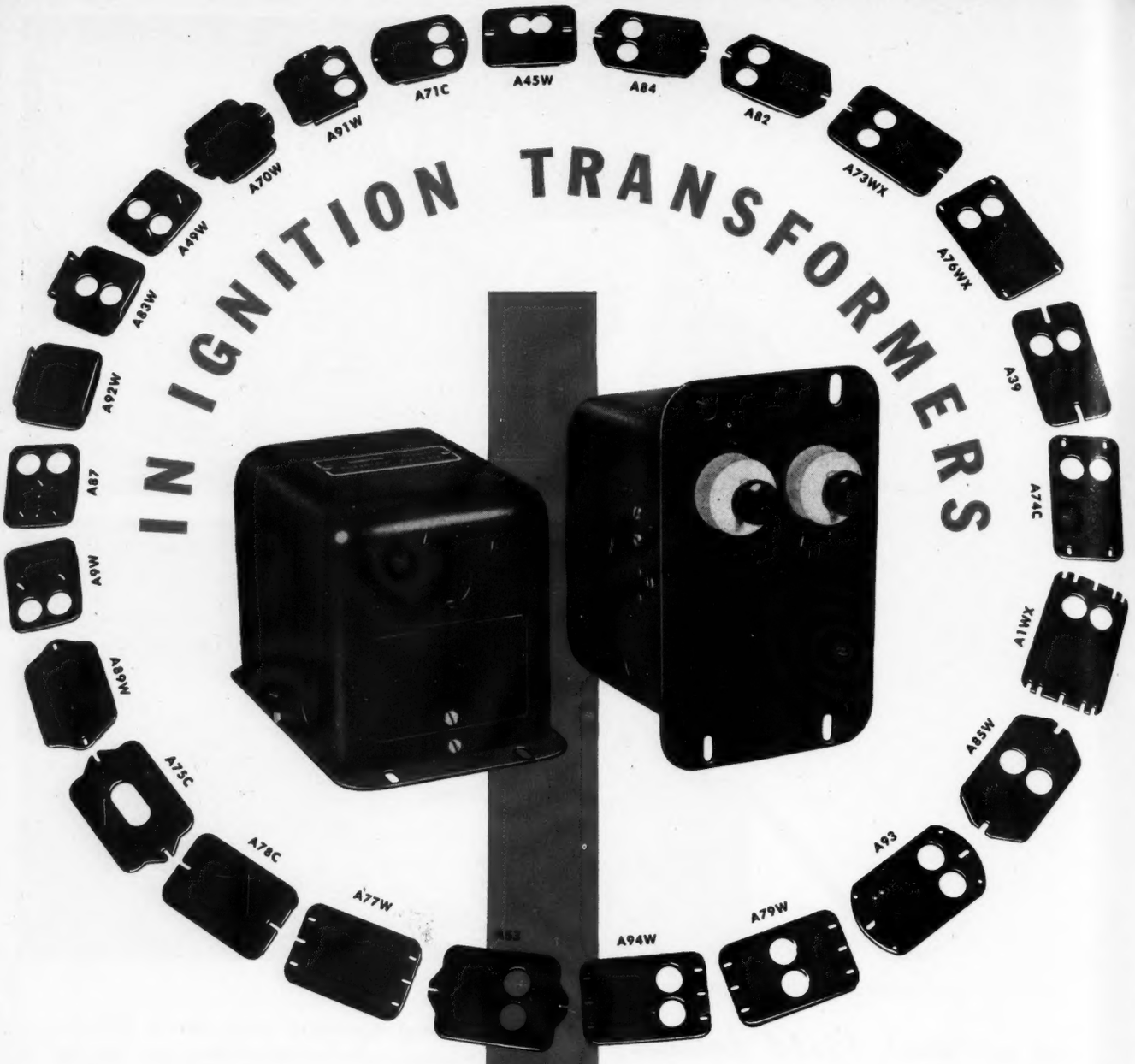
And the Field Control comes complete ready to install.

field

FIELD CONTROL DIVISION
OF H. D. CONKEY & CO. **MENDOTA, ILLINOIS**

fuel oil & oil heat

IN IGNITION TRANSFORMERS



SUPER builds oil burner ignition transformers to both standard and custom specifications with an all inclusive variety of mounting bases, 25 of which are illustrated above.

SUPER'S patented radio shielding eliminates radio interference to the fullest possible extent . . . an exclusive feature.

Super
IS A NAME AND A CLAIM

SUPER IGNITION TRANSFORMERS GIVE SUPER SATISFACTION TO YOUR CUSTOMER—TO YOU

Mf'd In Strict Accordance With UL Requirements
Also Approved CSA Specifications

Super
ELECTRIC PRODUCTS CORP.

1057 SUMMIT AVENUE
JERSEY CITY, NEW JERSEY

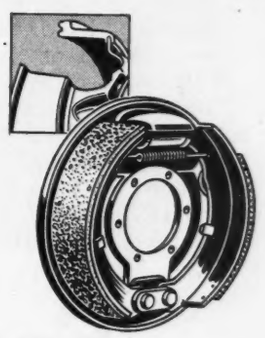
"THINK they last longer? Mister, I KNOW

FORD TRUCKS LAST LONGER!"

That's what Mr. R. G. Colvert of Ardmore, Oklahoma, wrote recently. "One of our Ford Trucks 11 years old," he added, "has gone over 250,000 miles and it's still on the job, with lots of good miles in it!"

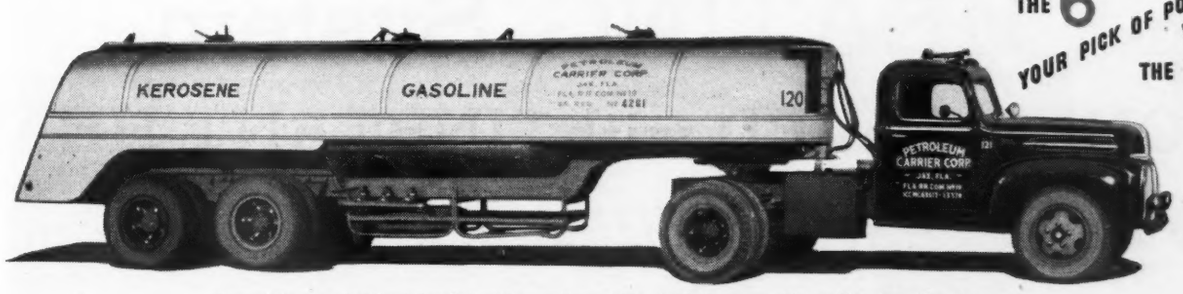
ONE big reason—FORD BRAKES STAND UP!

The wide, heavy, cast drum surfaces of Ford Brakes are non-warping and score-resistant. They are interlocked and fused with steel drum discs during casting, providing great strength and reducing weight. The two shoes are independently anchored, each shoe being actuated by its own hydraulic piston. Adjustment is extremely simple and entirely external. Brakes are exceptionally stable in adjustment. Entry of water and dust is minimized by closely fitted tongue-and-groove design, where edges of drums meet backing plates. Ford brake design promotes long lining life, consistent performance, extra-safe stopping ability and easy pedal pressure.



Ford

THE 6 YOUR PICK OF POWER THE V-8



"I certainly agree that Ford Trucks Last Longer," wrote Mr. A. K. Grass, president of Petroleum Carrier Corp., Jacksonville, Fla., recently. "We have 80 Ford Trucks. Their gross payloads range from 24,000 to 30,000 pounds and they operate an average of 550 miles a day. They're mighty hard to wear out!"

ONLY FORD GIVES YOU *ALL* THESE LONG-LIFE FEATURES: Your pick of Power—the great V-8 or the brilliant Ford six—extra-strength frames, with siderails *doubled* in heavy duty models—new Flightlight, 4-ring, oil-saving pistons—full-floating and ¾-floating axles, with axle shafts free of weight-load . . . more than fifty such endurance-engineering features in all. It's because of this long-life construction that *of all trucks 14 years old or older on the road today, there are more Ford Trucks than all other makes combined!* In fact, the average age of all Ford Trucks in use is over 9 years. See your Ford Dealer.

MORE FORD TRUCKS IN USE TODAY THAN ANY OTHER MAKE!

fuel oil & oil heat

"INSTANT HEAT"

Various parts of the burner

DESCRIPTION	MATERIAL
Blower Housing	Aluminum
Back Plate	Aluminum
Oil Line	Copper
Stand Pipe	Steel
Base	Aluminum
Blast Tube	Steel
Air Stabilizer	Aluminum
Nozzle Assembly	Brass & Aluminum
Air Cone	Cast Iron or Bronze
Electrodes	Standard
Air Shutter	Aluminum
Pump	Standard
Motor	Standard
Transformer	Standard
Fan	Steel
Coupling	Rubber

SPECIFICATIONS

FUEL UNIT: SUNDSTRAND, TUTHILL & TEESDALE

MOTOR: ⅛ H.P., 1/6 H.P., 1/5 H.P., & ¼ H.P., 1725 R. P. M.

TRANSFORMER: SUPER ELECTRIC, WEBSTER, & GENERAL ELECTRIC.

NOZZLE: HAGO.

FAN: LAU BLOWER WHEELS.

STACKSWITCH: MINNEAPOLIS-HONEYWELL.

THERMOSTAT: MINNEAPOLIS-HONEYWELL.

LIMIT CONTROL: MINNEAPOLIS-HONEYWELL.

IGNITION: ELECTRIC.

PRESSURE: 100 lbs.

CAPACITY: UP TO 5 G.P.H.

Approved by Underwriters' Laboratories, Inc.; Board of Standards and Appeals; Commonwealth of Massachusetts and State of Connecticut.

ENDORSED BY USERS as giving the greatest amount of heat for the least amount of fuel consumed.

ENDORSED BY SERVICEMEN as the "Serviceman's Delight" because of its simplicity in servicing, and minimum of service calls.

ENDORSED BY INSTALLERS because of the perfect alignment between Pump and Motor and superiority from an engineering and construction standpoint.

ENDORSED BY JOBBERS because of its selling advantages from a standpoint of quality and price.

...For Every Type of... HEATING System

MONEY SAVED with "INSTANT HEAT"

MOST *Reliable...* MOST *Efficient...* MOST *Economical*

Because of increased production, several exclusive Instant Heat distributorships are now available. Wire, write or phone immediately for details.

BUILT TO SATISFY

Instant Heat Oil Burner Corp.

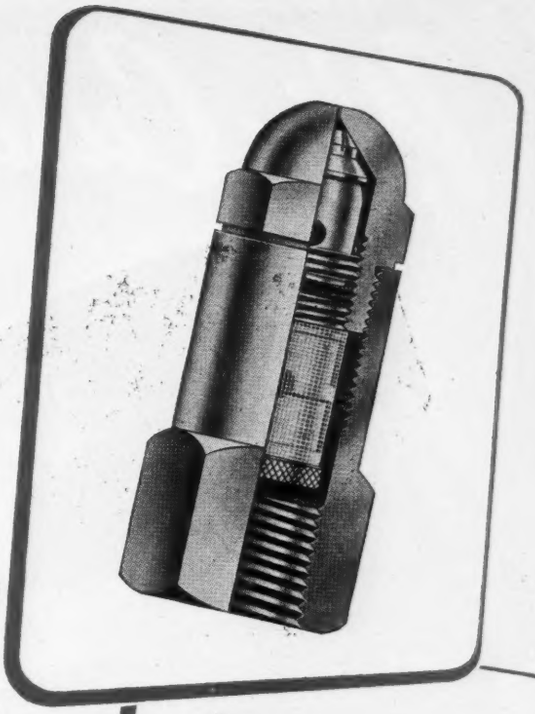
OIL BURNER MANUFACTURERS

8010—17th AVENUE, BROOKLYN 14, N. Y.

WITHIN REACH OF ALL

Get ready NOW for Spring Cleaning

As soon as the cold weather is over, there'll be the usual rush to check oil burners. Home owners will want to have their burners cleaned and gone over to be ready for the next season. Stock up now on these EDCO products. You'll want to be well supplied.



EDCO TESTED NOZZLES

EDCO Oil Burner Nozzles are the finest obtainable. They are made of the best grade stainless steel. Leading oil burner manufacturers prefer these nozzles because of their uniformity. Each one is tested for these three important features: (1) spray angle, (2) atomization, and (3) actual rated capacity. You can depend on EDCO nozzles for perfect performance.

EDCO SERVICEMAN'S KIT

An EDCO Kit is a decided asset the year 'round, but at spring cleaning time, IT'S INDISPENSABLE. The finest accessories for servicing oil burners are conveniently and *safely* assembled in a compact, hinged kit, with safety lock. These kits pay for themselves by reducing the chance of damaged nozzles to a minimum. In addition to the Kit illustrated, there are two smaller kits (one pocket size). Write today for information on contents and prices.

EDCO DUPLEX VALVES

EDCO Single Adjustment Duplex Valves regulate oil burner fuel pressure and stop the oil flow to the nozzle during the "off" period. The outer casting is made of close non-porous brass, the valve needles of stainless steel, the valve seat of special alloy bronze. *EDCO valves are the finest of their kind made* and conform to the standards of the Underwriters' Laboratories for use on burners operating as high as 150 pounds oil pressure. For complete information request our Bulletin No. 808.

EDCO *Dependable*

OIL BURNER PARTS

EDDINGTON METAL SPECIALTY COMPANY

P. O. BOX K, EDDINGTON, PENNSYLVANIA

Win Customers... INFLUENCE FUTURE SALES with "DUAL-DIALS!"

From any angle—visibility, safety, convenience, accuracy, proof of performance—your customer gets the most for his money in "Dual-Dial" gauges. Here is a sure way to win customers and influence future sales because nothing builds business faster than satisfied customers.

Dealer Opinion on Dual-Dials

A recent survey among important oil burner manufacturers, dealers and fuel oil distributors shows overwhelming preference for Rochester "Dual-Dial" fuel tank gauges. The usual comment—"the most dependable fuel oil gauge on the market."

Consumer Satisfaction

Because they are dependable, over 1,000,000 "Dual-Dial" installations have helped installers and fuel distributors to secure more business.

Easy to Install

Whether for a new or an old installation, all you do is screw the gauge head to the tank and you are all through—no on-the-job calibration or fussing.

Easy to Read

The large figure on "Dual-Dials" can be read clearly at 20 feet. No fumes can discolor dial because gauge is leakproof.

Build your Business with Dual-Dials

Made for 275-gallon oil burner storage tanks and stocked for tank depths of 22″, 24″, 26″, 27″, 42″ and 44″; 1½″ and 2″ pipe thread connections. Special lengths to order.

ROCHESTER MANUFACTURING CO., INC.
8 Rockwood Street, Rochester 10, New York
Canandian Representatives, R. W. Anderson and Co.,
125 Redpath Avenue, Toronto, Ontario, Canada

Rochester
Guaranteed Accuracy

ENGINEERED INSTRUMENTS
LIQUID LEVEL, TEMPERATURE AND PRESSURE GAUGES

fluid heat gives alert fuel oil dealers plenty of talking points! . . . .

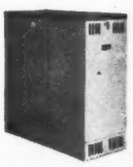
Easier to Satisfy Customers

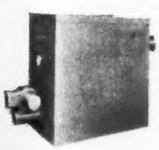
You make more sales because the Fluid Heat Line is really complete, includes both pressure *and* rotary burners. That means you sign up more fuel oil contracts—build greater fuel oil volume!

4 Pressure Burners Firing rates from 7/10 to 12 gallons per hour

7 Wall Flame Rotary Burners Firing rates from 1/2 to 6 gallons per hour

2 Air Conditioning Furnaces From 85,000 to 120,000 BTU per hour





6 Boiler Burner Units Capacities from 475 to 840 sq. ft. of standing hot water

$ $$ $$ $$ $

Sound and Competitive Price Structure

Savings effected in manufacturing methods *not* in materials . . . keep our prices competitive . . . fit Fluid Heat Products for every field from small homes to commercial installations.

fluid heat OIL BURNER

Since the beginning of oil heating, the Fluid Heat trademark has meant well-designed and well-constructed units, known and trusted by American consumers for fine performance.

Properly Designed and Ruggedly Built

Fluid Heat Products reduce service problems to a minimum, thus make a substantial saving in your service costs. You get sound engineering *not* spectacular gadgets with Fluid Heat. And every Fluid Heat Unit is thoroughly tested before leaving our plant.

A Top-Notch Development Laboratory

Headed by engineers long experienced in the industry, this laboratory keeps Fluid Heat Products up-to-date and ahead of competition in engineering and construction. Its facilities are devoted to giving you more convincing sales points.

THESE are a few of the things that make Fluid Heat a profitable line to handle. As a fuel oil dealer you will also be interested in our active, experienced field force. These men are always ready to help Fluid Heat Dealers in problems of service and sales. And you'll also appreciate our friendly dealer policy . . . built on the principle of building *our* business by helping fuel oil *dealers* build theirs.

Write us for full details on a Fluid Heat Dealer Franchise and information on future possibilities. Fluid Heat Division, Anchor Post Products, Inc., 6700 Eastern Ave., Baltimore, Maryland.

fluid heat OIL BURNER

"WORLD'S ECONOMY CHAMPION"

Manufactured by Anchor Post Products, Inc., Baltimore, Md., Established 1892

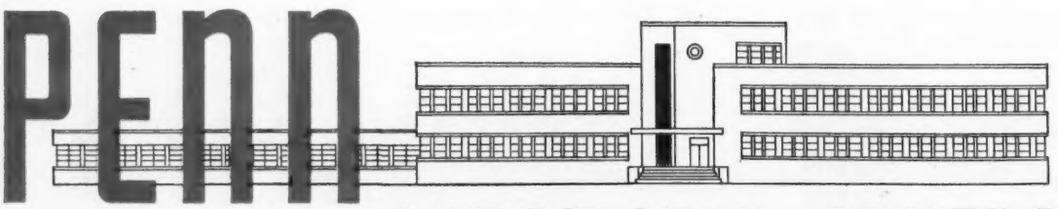
fueloil & oil heat

THIS DEAL WINS

Satisfied Heating Customers

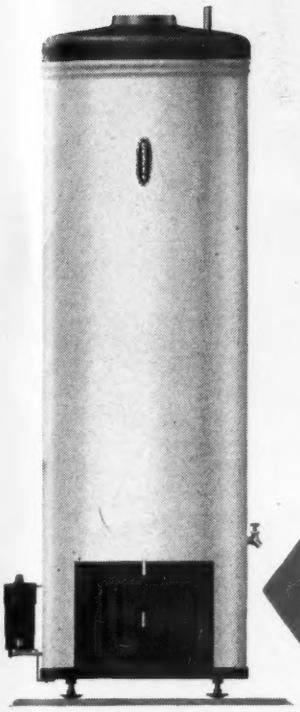
You know your customers will be satisfied . . . when you sell PENN Automatic Controls. Satisfied . . . because these better heating controls are "field-tested" to provide long life and accurate service.

With this complete line of automatic controls . . . you can specify a control for every type of heating job, every kind of system. There are primary controls, limit switches and relays. Then there is PENN Temtrol, the famous heat-anticipating thermostat, PENN Tem-Clock, with its economy and convenience of completely automatic Day-Nite Control. Ask your jobber about these dependable and efficient controls today. *Penn Electric Switch Co., Goshen, Ind.* Export Division: 13 E. 40th Street, New York 16, U.S.A. In Canada Penn Controls, Ltd., Toronto, Ont.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS



DE SOTO

Discovers

NEW EXCLUSIVE OIL-BURNING PILOT

The De Soto domestic oil-burning water heater has a radically new smudgeless pilot light that rarely requires cleaning and when it does, the part can be removed in a minute and be decarbonized in an instant. This fully automatic, Underwriters' Laboratory approved water heater is easy to install and is economical in operation.

Quiet, trouble-free De Soto Oil Burners are giving satisfaction in thousands of installations. Backed by 44 years of engineering and manufacturing experience, the De Soto line combines ease of installation and servicing with high quality performance.

NEW DEALERS WANTED

De Soto has stepped up production to the extent that additional outlets are now solicited and immediate delivery assured to dealers who sign up now.

DE SOTO OIL BURNER CORPORATION
40 NORTH PENN STREET YORK, PENNA.

DELIVERY NOW

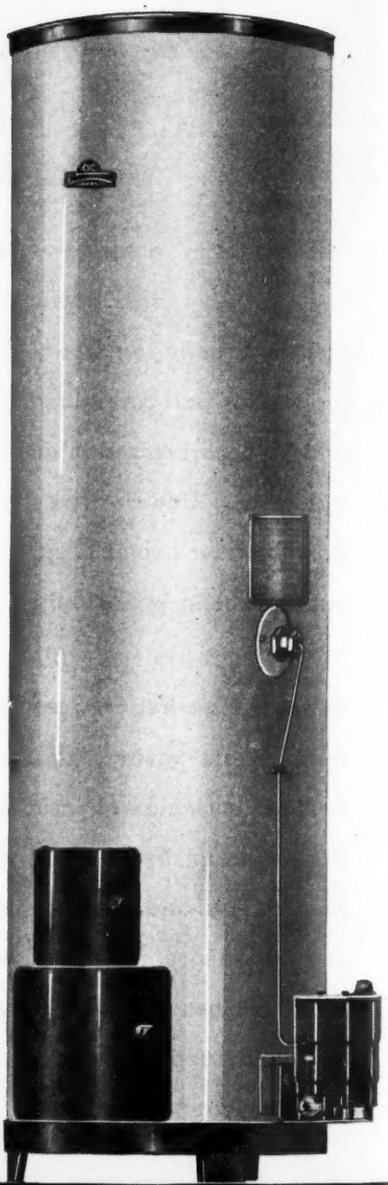
fueloil & oil heat

ITS RECORD OF *Performance*
IS ITS BEST *Recommendation*

FOR STEADY PROFITS *Specify*

C&L HOFFMAN
TRADE MARK

OIL FIRED WATER HEATERS

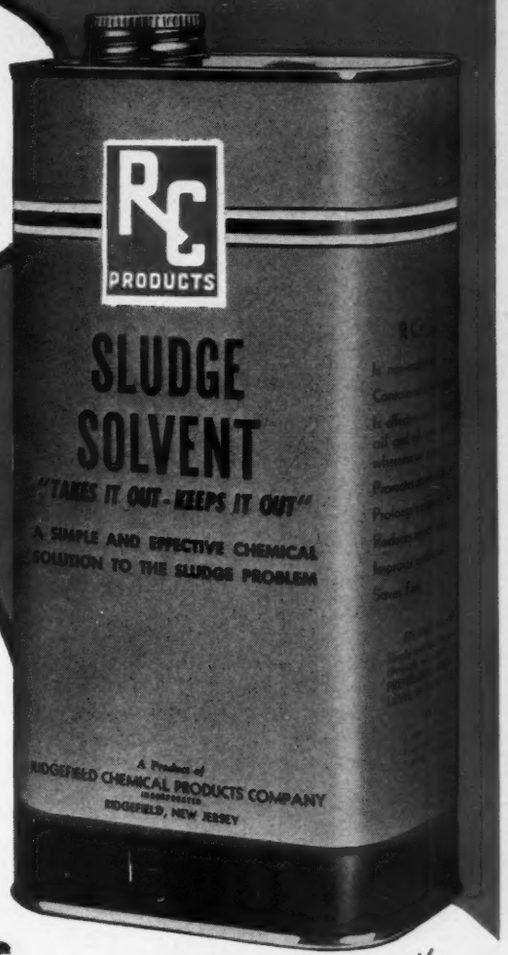


The C&L Hoffman Oil Fired water heater is dependable and easy to install. C&L Hoffman's reputation for nearly 50 years of building fine water heaters is your assurance of customer satisfaction. C&L Hoffman Oil Fired water heaters, which carry the "Underwriters Label," are rendering faithful service in thousands of homes. Your business can grow and your profits increase by specifying C&L Hoffman Oil Fired water heaters for all your installations.

Send for literature and name of nearest jobber today!

CLAYTON & LAMBERT MFG. CO.
1730 DIXIE HIGHWAY, LOUISVILLE 10, KENTUCKY

SELL YOUR CUSTOMERS A SPRING CLEAN-UP SPECIAL WITH RC SLUDGE SOLVENT



Extra business, extra profits for you! Extra service for your customers! Push this Spring Clean-Up offer now when heating season service calls fall off. Economical. Quick, easy to use—just pour into storage tank before oil is put in. Does not contain kerosene or creosote.

WHAT RC SLUDGE SOLVENT DOES:

- **RC SLUDGE SOLVENT** liquefies accumulated sludge so that it burns with the oil and prevents further sludge formation.
- **RC SLUDGE SOLVENT** disperses water condensation. This is especially important during humid summer months when storage tanks are not kept as full as during winter. Moisture in humid air is drawn into tank through intake pipe and condenses on cold walls.
- **RC SLUDGE SOLVENT** minimizes corrosion—provides protective coating against caustic action on storage tank walls and in feed lines.
- **RC SLUDGE SOLVENT** prevents clogged strainers and lines.
- **RC SLUDGE SOLVENT** reduces soot and smoke.

Other Products in the COMPLETE RC LINE . . .

RC OIL SEAL remains semi-plastic against vibration and pressure. Can be used with or in place of gaskets and on all threaded connections. Non-breakable plastic container with handy brush-in-cap makes RC Oil Seal easy and economical to use. Free sample on request.

RC SOOT REMOVER removes the most common cause of heat transfer loss in oil-fired boilers safely and economically. Easy-to-use powder form.

RC WATER CONDITIONER neutralizes alkalinity in make-up water. Cleans boiler interior and keeps piping, traps, and siphons free from clogging—insuring efficient heating.

ATTENTION JOBBERS!

Write today for information on jobber territories open and profit possibilities on RC Products.

Try Amazing New RC DRY WASH Trademark Hand Cleanser

Cleans the dirtiest hands in just a few seconds! Removes oil, grease, grime, tar, paint, printers' ink—*all without water or scrubbing.* Comes in handy tube for your tool kit and large size economy can for your shop.

Order RC Products from Your Jobber. If he can't supply you, mail coupon today.

RIDGEFIELD CHEMICAL PRODUCTS COMPANY, Inc.
Ridgefield, New Jersey (FOH—4-47)

- ☐ **Please send information, prices on RC Sludge Solvent. Also name of nearest jobber.**
- ☐ **Please send free sample of RC Oil Seal and data on other RC Products.**

NAME.....

ADDRESS.....

CITY.....

MY JOBBER'S NAME IS.....

HIS ADDRESS IS.....

Ridgefield Chemical Products Co., Inc.

RIDGEFIELD • NEW JERSEY

Trademark

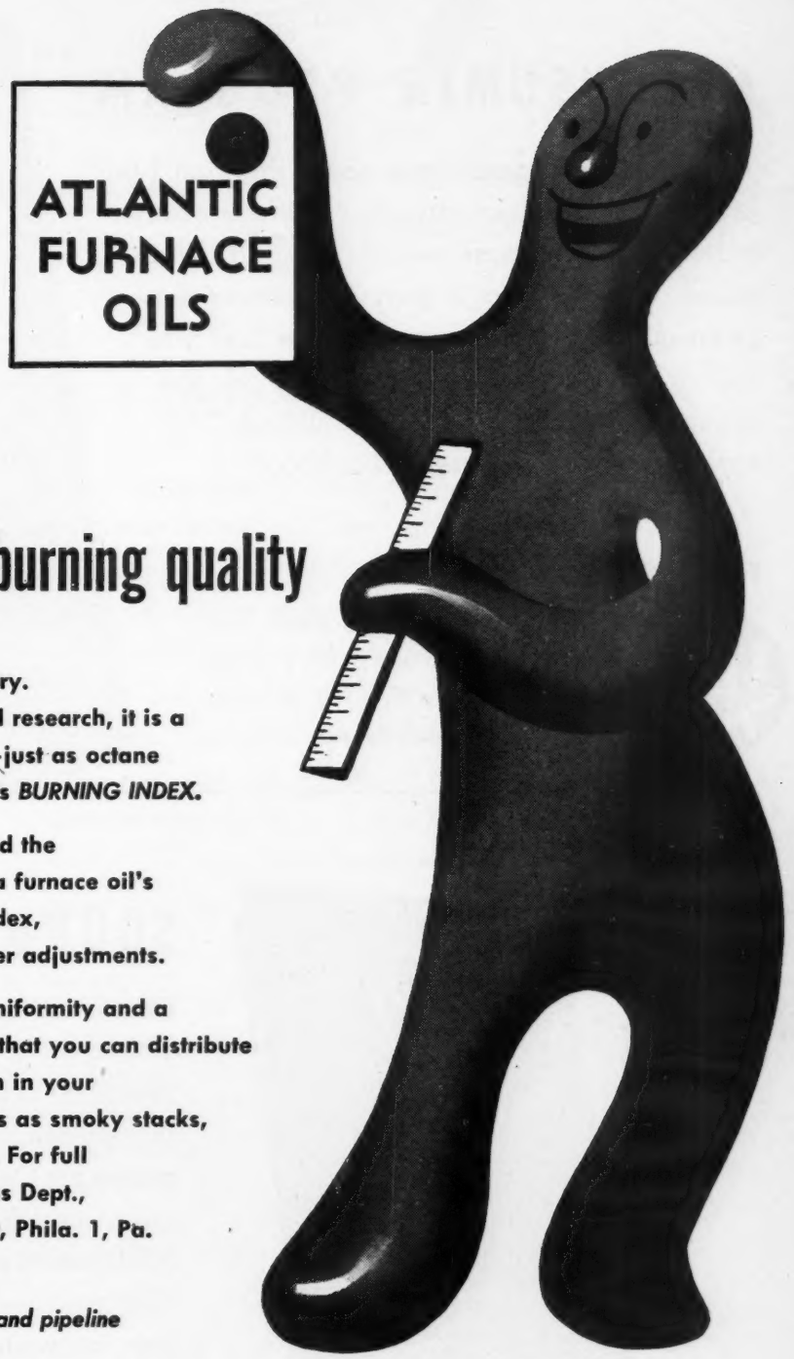
"YOU CAN'T GO WRONG WITH RITE"

That's a catchy slogan used by Rite Fuel Corporation, of Brooklyn, New York—"You Can't Go Wrong With Rite." Apparently, they feel the same way about Autocar Trucks, for they recently bought this one and equipped it with a 2,500-gallon, 4-compartment tank body. Yes, a well-built truck backed by a competent service organization is the "rite" bet for any business. Autocars cost less, because they do more work.

AUTOCAR TRUCKS *ENGINEERED FOR HEAVY DUTY*

Manufactured in Ardmore, Pa. • Factory Branches and Distributors from Coast to Coast

ATLANTIC PIONEERS AGAIN!



NOW, IT'S B.I.

measure of furnace oil burning quality

• Here's a new development in the oil industry. Another achievement of Atlantic's furnace oil research, it is a means of rating furnace oil burning quality—just as octane is a measure of gasoline power. It's Atlantic's *BURNING INDEX.*

• B. I. (Burning Index) is based on gravity and the 50% boiling point of oil—factors that affect a furnace oil's burning efficiency. The higher the Burning Index, the less you have to be concerned with burner adjustments.

• Atlantic continuously uses B. I. to assure uniformity and a clean-burning, high-quality furnace oil—one that you can distribute with confidence. B. I.—an invisible watchman in your customers' homes—forestalls such complaints as smoky stacks, king-size soot deposits and shorted ignitions. For full information on B. I., write to Furnace Oil Sales Dept., The Atlantic Refining Co., 260 S. Broad Street, Phila. 1, Pa.

• *Ample reserves of Atlantic Furnace Oil assure prompt delivery from 21 carefully located barge and pipeline terminals from New England south to Georgia.*

The Atlantic Refining Company

REFINERIES AT PHILADELPHIA, PENNSYLVANIA; AND ATREGO, TEXAS

TERMINALS AT:

Buffalo, N. Y.	Northumberland, Pa.
Rochester, N. Y.	Mechanicsburg, Pa.
Syracuse, N. Y.	Allentown, Pa.
Albany, N. Y.	Reading, Pa.
Elmira, N. Y.	Trenton, N. J.
Binghamton, N. Y.	Philadelphia, Pa.
Providence, R. I.	Wilmington, Del.
New Haven, Conn.	Baltimore, Md.
Newark, N. J.	Richmond, Va.
Williamsport, Pa.	Wilmington, N. C.

Brunswick, Ga.

fueloil & oil heat

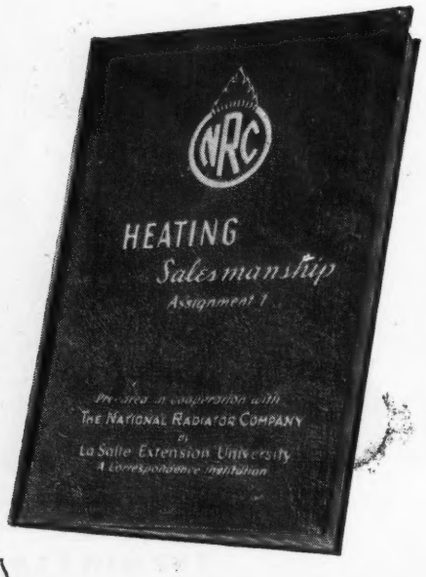
TO HELP YOU SELL!

A CONSUMER PROGRAM

You'll want full particulars about this first I-B-R promotional program directed to the consumer to help *you* sell more radiant heating. We're proud to have had a part in making this program possible, and we believe that you will want to take full advantage of the acceptance this campaign is building . . . *right in your own neighborhood!*

FREE BOOKLET

Write to the Institute of Boiler and Radiator Manufacturers, 60 E. 42nd St., Dept. NR, New York 17, N.Y. for free booklet and full details.



SOUND SALES TRAINING

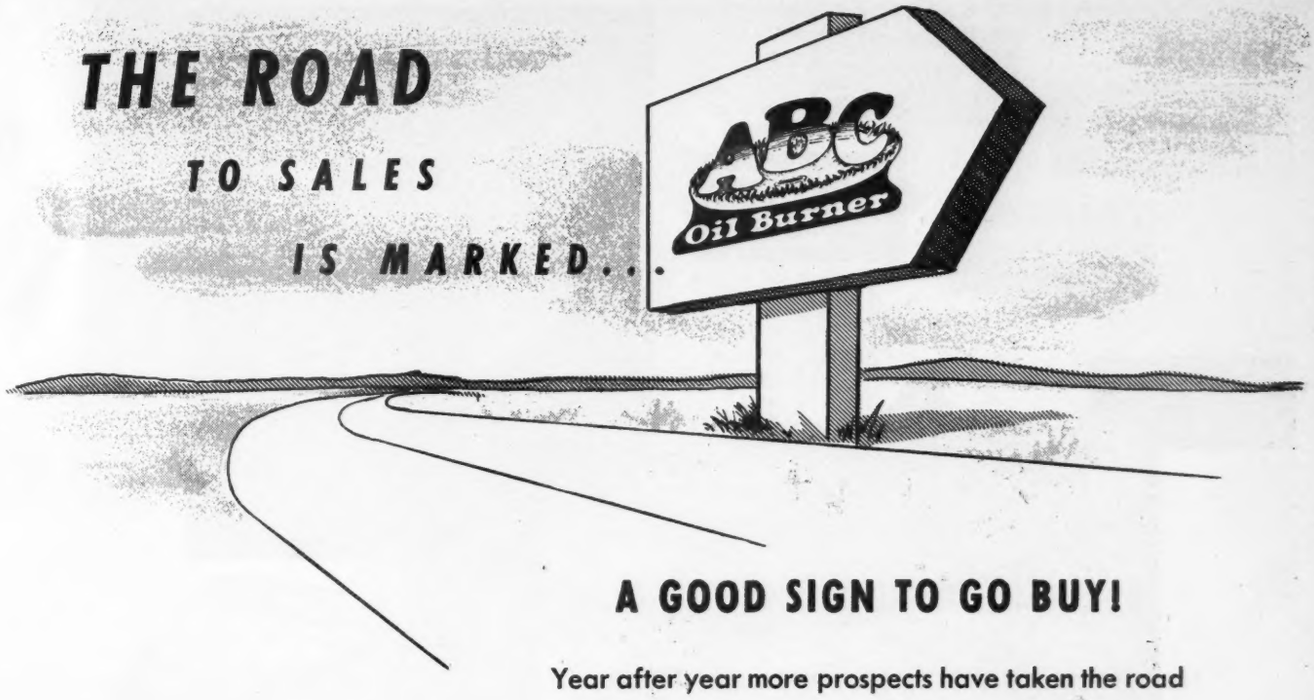
Here's an opportunity to sharpen up your selling tools for the competitive market that's bound to come. Solid, down-to-earth selling information in five interest-packed assignments for Contractor-Dealers and their salesmen, only $12.50. An extra assignment for Wholesaler salesmen—only $4.00 additional. Call your nearest NRC office for full information, or write as follows:

WRITE TO Sales Training, The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania, for full information without obligation.

The NATIONAL RADIATOR Company

JOHNSTOWN, PENNSYLVANIA

THE ROAD TO SALES IS MARKED...



A GOOD SIGN TO GO BUY!

Year after year more prospects have taken the road that leads to their ABC dealer. For over 26 of those years buyers have discovered ABC oil burning equipment gives them more value, more quality, more satisfaction for their money. ABC dealers have continued to cash in on this ever-growing popularity! Equipment trademarked ABC is easier to sell and stays sold because it's easier to install and more economical to operate... which all adds up to bigger profits for you! Find out how you can join the profit parade. Write today!

PRESSURE BURNER

The pressure burner with many exclusive ABC features . . . tested and proven the most efficient and economical in thousands of installations. Right for your customers . . . right for your sales and profits—Write us for further details.

SALES
ABC
HI-WAY

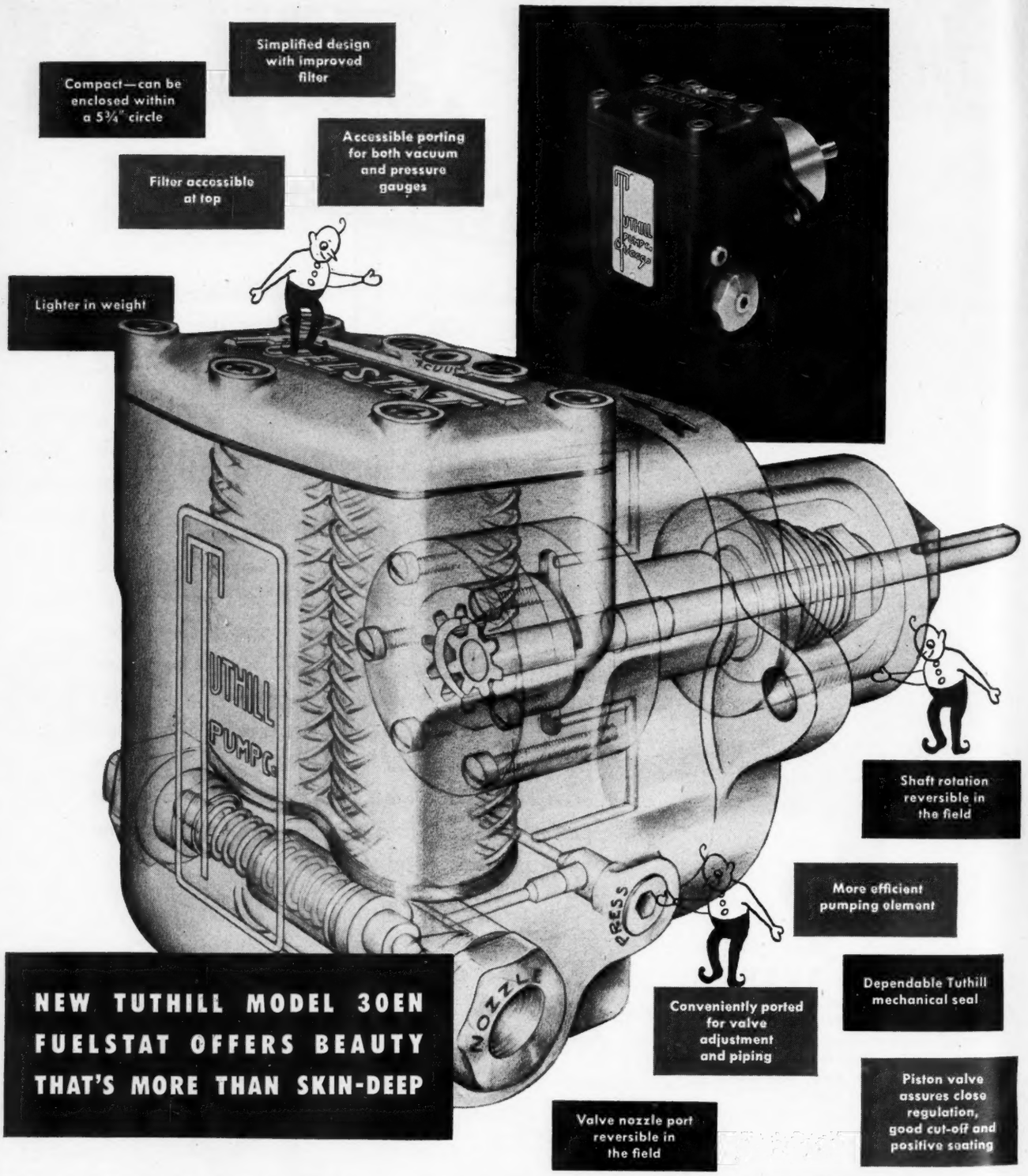
ABC RANGE BURNER

All steel construction, with closer fitting shells and cover plate for quicker heating, steadier flame. Easy to install. Listed as standard by Underwriters' Laboratories.

AUTOMATIC BURNER CORPORATION

1823 CARROLL AVENUE, CHICAGO 12, ILLINOIS

fuel oil & oil heat


Simplified design with improved filter
Compact—can be enclosed within a 5¾" circle
Accessible porting for both vacuum and pressure gauges
Filter accessible at top
Lighter in weight
Shaft rotation reversible in the field
More efficient pumping element
Dependable Tuthill mechanical seal
Conveniently ported for valve adjustment and piping
Piston valve assures close regulation, good cut-off and positive seating
Valve nozzle port reversible in the field
Suction and by-pass ports at bottom for convenience and economy
Internal by-pass easily reached through by-pass port
NOZZLE
PRESS

NEW TUTHILL MODEL 30EN FUELSTAT OFFERS BEAUTY THAT'S MORE THAN SKIN-DEEP

When you add up the structural features of this new Tuthill Fuelstat, you quickly see that its beauty goes far beyond its outer appearance in providing quiet, leakfree operation, lower power consumption, positive valve cut-off and long life. Write for complete details.

Tuthill Pump Company

939 East 95th Street • Chicago 19, Illinois

Excels FOR CUSTOMERS!

Outsells FOR DEALERS!

The Gilbarco Oil Burner — the burner with the ECONOMY CLUTCH — can put you way ahead of competition! The ECONOMY CLUTCH is a headline selling feature hailed as the most significant oil burner advance in 25 years! It has undergone almost unbelievable endurance tests without appreciable wear. One clutch operating continuously has already equalled 180 years' average home heating use!

Here are some of the advantages of the ECONOMY CLUTCH:

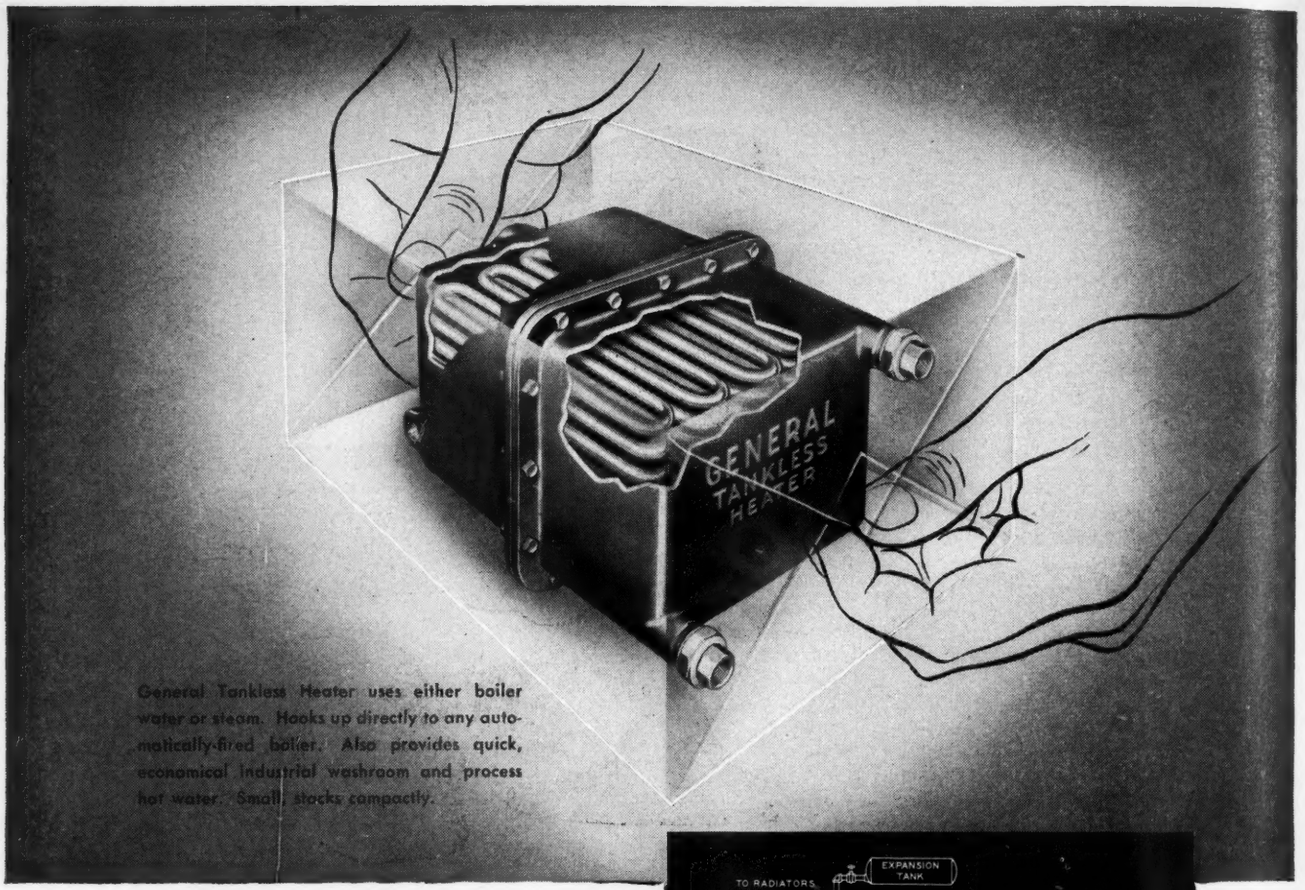
- **IT GIVES GREATER FUEL ECONOMY...** freedom from heavy soot deposits results in important fuel conservation.
- **IT PRODUCES MAXIMUM HEAT...** precision atomization assures full burning of the fuel from instant of ignition.
- **IT ALLOWS MORE UNIFORM HEATING...** closer thermostat adjustment permits more even comfort control.
- **IT ASSURES CLEANER HEATING...** both inside and outside the heating plant.
- **IT OPERATES WITH NEW QUIETNESS...** the burner starts and stops quietly, with no strain on the motor.

Gilbarco

THE OIL BURNER WITH THE ECONOMY CLUTCH

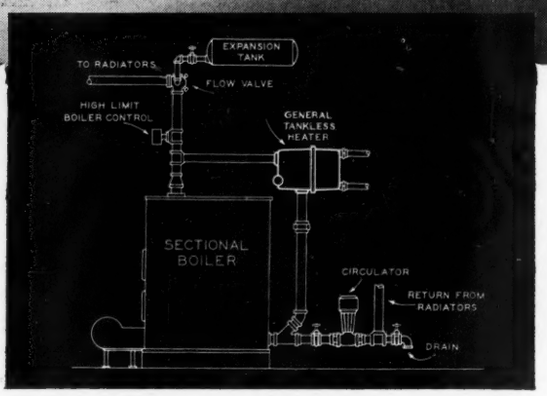
Gilbert & Barker Manufacturing Co.
West Springfield, Mass. • Toronto, Canada

fuel oil & oil heat



General Tankless Heater uses either boiler water or steam. Hooks up directly to any automatically-fired boiler. Also provides quick, economical industrial washroom and process hot water. Small, stacks compactly.

Look what there is for you in this "Handy Package" of hot water!



● It's not just your customers who get more from a General Tankless Water Heater. You're on the receiving end too, with a neater, simpler, more profitable installation.

The General Tankless is a handier package for you because it needs no complicated piping, no tank to install. Even on large jobs—big houses or apartment houses—just two men can do the work quickly and easily.

The General Tankless is a handier package of hot water for your customers because it gives up to 35 g.p.m. *instantaneously!* No annoying waits for a tank to reheat, no space-wasting tank or complicated piping. Handier because water is always sparkling clean and rust-free since it flows through seamless copper tubing that won't rust out. That means lifetime service for your customers—and well satisfied customers for you.

Make the next water heater you put in a General and see the difference. Catalog 17 gives full details. General Fittings Co., 125 Georgia Ave., Providence 5, R. I.

GENERAL

TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

Meet the Oil Burner Demand with the ROSS* OIL BURNER

★ Formerly manufactured by us under the name of MARINE OIL BURNER.

Engineered to Please Dealer and Customer

Low Cost Performance
Delivers more heat for less money

Quiet Operation
Vibration free—cast aluminum construction

Simple Installation
Easily Serviced. Vital parts quickly accessible

WE WANT DEALERS

Profitable Franchise . . . Assured Deliveries

We want more dealers to handle ROSS OIL BURNERS and are prepared to offer valuable franchises in good territories and make substantial delivery guarantees during the critical installation months ahead. Our production is now rising to a peak far above that which made us the production leader in 1946. You can depend on the leader to deliver the burners, and ROSS OIL BURNER has what it takes to please you and your customers. You can sell them; we can deliver them. Wire us today, or mail the coupon for further information on the profitable dealer franchises now available.

MARINE
MANUFACTURING COMPANY
214 West Ontario Street
Chicago 10, Illinois
TELEPHONE WHITEHALL 6626

MARINE MANUFACTURING COMPANY
214 West Ontario Street
Chicago 10, Illinois

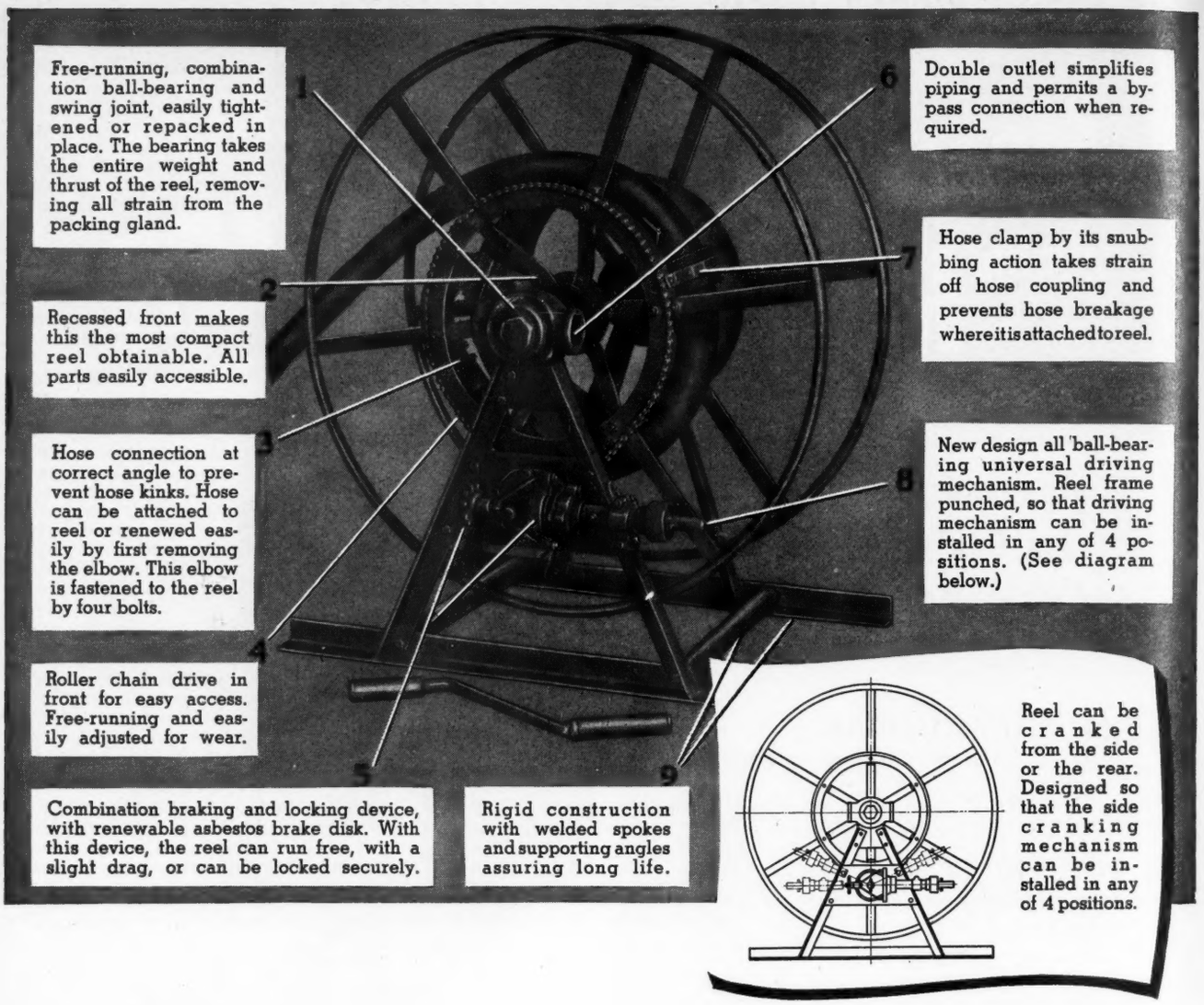
I want to know all about the ROSS Oil Burner Profitable Dealer Franchise. Please send complete details, with no obligation.

Name .....

Address .....

City .....*Zone*....*State*.....

fueloil & oil heat


1
Free-running, combination ball-bearing and swing joint, easily tightened or repacked in place. The bearing takes the entire weight and thrust of the reel, removing all strain from the packing gland.
2
Recessed front makes this the most compact reel obtainable. All parts easily accessible.
3
Hose connection at correct angle to prevent hose kinks. Hose can be attached to reel or renewed easily by first removing the elbow. This elbow is fastened to the reel by four bolts.
4
Roller chain drive in front for easy access. Free-running and easily adjusted for wear.
5
Combination braking and locking device, with renewable asbestos brake disk. With this device, the reel can run free, with a slight drag, or can be locked securely.
Rigid construction with welded spokes and supporting angles assuring long life.
6
Double outlet simplifies piping and permits a by-pass connection when required.
7
Hose clamp by its snubbing action takes strain off hose coupling and prevents hose breakage where it is attached to reel.
8
New design all ball-bearing universal driving mechanism. Reel frame punched, so that driving mechanism can be installed in any of 4 positions. (See diagram below.)
9
Reel can be cranked from the side or the rear. Designed so that the side cranking mechanism can be installed in any of 4 positions.

The New Hose Reel You Have Been Looking For

COMPACT, RUGGED, LIGHT IN WEIGHT, BALL-BEARING CONSTRUCTION THROUGHOUT

The New Philadelphia Valve Co. reel is the finest reel built. It is compact, rugged, and light in weight. All parts are of steel, malleable iron, or bronze; no cast iron is used. It is ball-bearing throughout with hardened and ground races. (6 ball bearings are used.) It will never wear out.

The reel can be changed from top winding to bottom winding by reversing the hose connection and rotating the drum. All working parts and hose connections are in front and easily accessible. It is light in weight, a reel that holds 100 feet of 1½" hose, weighs only 93 pounds.

We can furnish hose reels in any size or shape. They can be furnished for installation either in bucket box at rear of truck or in underslung box on side of truck. Give inside dimensions of box when writing for information. Special reels can also be furnished for Airfield Refueling Pits and Ship Docks.

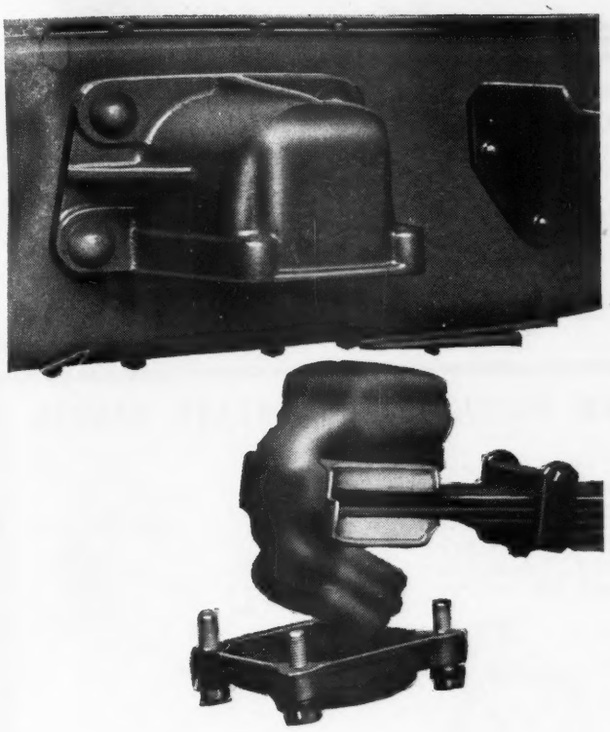
Delivery can generally be made in a few days after receipt of order. For sizes, prices, and dimensions, write for Catalogue No. 165.

PHILADELPHIA VALVE COMPANY

ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA 34, PA.

Oil Marketing Equipment Company, 321-325 Fremont Street, San Francisco 5, California

No other truck has this...



It's a rubber Shock Insulator...developed by Mack engineers more than 20 years ago. It was—and still is—the best means of retaining spring ends.

Shock Insulators do away with binding metal surfaces...there is no metallic contact between springs and chassis. They absorb vibrations. The need for lubrication and adjustment at spring ends is eliminated. Squeaks, rattles, and fast wear of parts are unheard of. Shock Insulators provide smooth performance under heavy loads. They lengthen working life indefinitely.

But how about wear? Shock Insulators have been known to last over ten years. Security? It's impossible for the spring to pull out of its housing. Twisting? The spring can never twist. Removal? It's simple and quick. Shock Insulators aren't complicated.

Only Mack employs rubber Shock Insulators as spring-end connectors. That's another good reason why you get more work out of a Mack. More work goes into it.

Mack

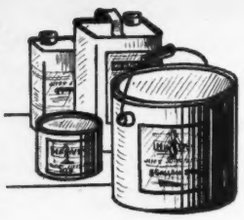
since 1900, America's hardest working truck

Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City; N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada, Mack Trucks of Canada Ltd.

Trucks for every purpose

DEPENDABLE DELIVERIES are a **must** for fuel distributors. This Mack handles a big share of the regular fuel oil deliveries for **Roslyn Supply Company, Roslyn, N. Y.**.. keeps customers satisfied with Roslyn service...keeps profitable orders coming in.

fuelail & oil heat



Now is the Time
To Clean Up with—JIFFY JUICE

Shows wire basket for holding small parts.

CLEANS NOZZLES — STRAINERS — ELECTRODES

FREES STUCK FOOT VALVES — CLEANS ROTARY HEADS

JIFFY JUICE DISSOLVES TAR, DIRT, SCUM, PAINT, SLUDGE, GREASE, CARBON

FAST

The gummiest parts can be taken out of JIFFY JUICE, thoroughly clean, after a 10 to 15 minute bath. However, painted or badly carbonized parts may take longer.
A wire basket, for cleaning small parts, is included in the kit.

THOROUGH

No matter how thick gum, tar, grease, paint, and carbon may be on metal parts, it all comes off with JIFFY JUICE.
All Metal parts come out clean as a whistle.

ECONOMICAL

JIFFY JUICE can be used over and over again without losing its strength. It doesn't evaporate faster than water, even if left uncovered. Freezing does not affect it.

SAFE

It is non-inflammable and does not give off toxic fumes. It will not harm any metal part and has no chemical effect on clothing or skin (it does remove the natural oil from the skin, and the hands should be washed, if exposed, to avoid chapping).

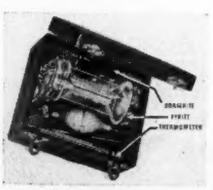
AVAILABLE TO THE TRADE ONLY.

A JIFFY JUICE KIT SHOULD BE IN EVERY SERVICE CAR

1 QUART KIT, WITH BASKET	$1.60
1 QUART REFILL	1.50
1 GALLON REFILL	4.50
5 GALLON SERVICE CONTAINER, WITH BASKET	20.25

Send pumps, valves and controls for rebuilding now when they are not urgently needed and avoid breakdowns later.

General Electric one man furnace cleaner complete with accessories now available at $115.00.



A CO2 test kit enables you to check and adjust burners scientifically. Insures customer satisfaction.

Clogged strainers overload pumps. Save your customers money by installing a filter.

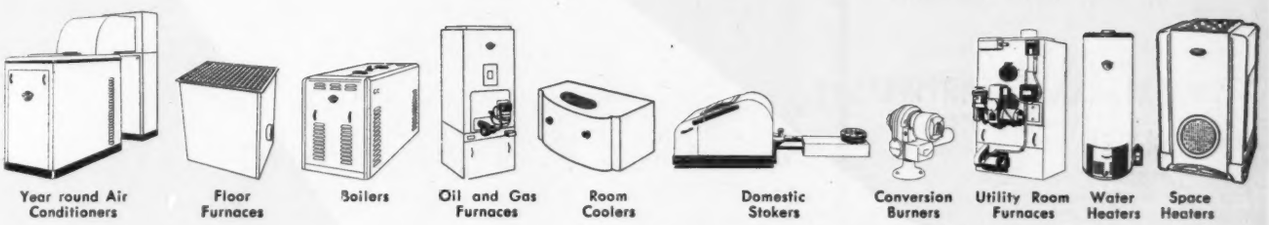
Furnace Cleaning Wire Brushes, Soot Destroyer, Sludge Solvent and thousands of other service parts described in Sid Harvey's catalogue. For the trade only—send for it today. Free.

IN PHILADELPHIA
Sid Harvey of Pa., Inc.
1520 South 57th Street (43)
Branch: 521 W. Lindley Ave.

IN BOSTON
Sid Harvey of Mass., Inc.
566 Cambridge Street
(Allston Station)

IN NEWARK
Sid Harvey of N. J., Inc.
103 Lindsley Avenue

a better name
for a superior product



Trade Mark Reg.

All of Viking's Automatic Heating, Cooling and Commercial Refrigeration products reflect the great technical and production advances made during the war. These new products will now be trade-marked VIKIMATIC — and every unit will be identified by the handsome new name-plate, here illustrated.

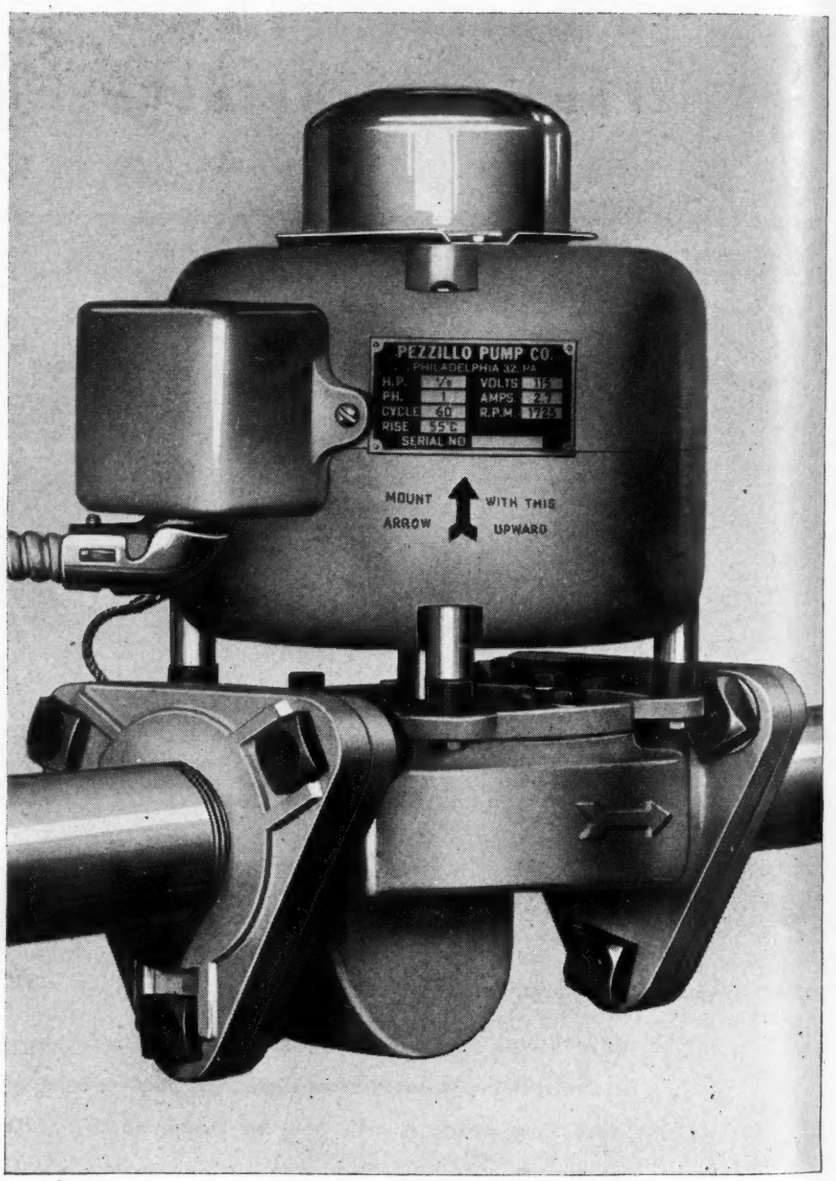
Appropriately linking the words "Viking" and "Automatic", the new name (Trade-Mark, Reg.) and the new insignia will be featured in Viking's consumer and trade advertising, sales literature, display and dealer-aid material. And VIKIMATIC's nation-wide organization of Distributors and Contractor-Dealers will benefit from this distinctive and more descriptive identification of the superior equipment they are authorized to represent.

THE VIKING MFG. CORPORATION

1747 Chester Avenue **Cleveland 14, Ohio**

Pezzillo HOT WATER CIRCULATOR

- COMPLETE MOTOR AND PUMP MANUFACTURED IN OUR OWN FACTORY
- EXTERNAL STARTING DEVICE
- THERMAL OVERLOAD PROTECTOR WITH AUTOMATIC RESET
- FULL FLOATING — RUBBER MOUNTED
- QUIET
- DEPENDABLE
- EFFICIENT
- FULLY GUARANTEED



Here is the modern circulator for all Hot Water Heating Systems. The simplicity of design brought about through the elimination of superfluous parts assures dependable operation, longer life and maximum performance. Write for performance and installation data, Bulletin #2.

PEZZILLO PUMP COMPANY

1343 W. CUMBERLAND ST., PHILADELPHIA 32, PA.

HERE'S WHY YOU GET MORE

WITH A GENERAL MOTORS DELCO-HEAT FRANCHISE

Each of These Important Points Makes DELCO-HEAT Units easier to sell.

This Certifies That
is a franchised
DELCO-HEAT DEALER
and is duly authorized to sell, install and service Delco-Heat automatic heating units, parts and accessories.
DELCO APPLIANCE DIVISION
ROCHESTER, NEW YORK

EFFICIENCY in operation

General Motors has had long experience in designing combustion equipment for automobiles. Efficiency in extracting a maximum of heat from a minimum of fuel is engineered into Delco-Heat units.

DEPENDABILITY in performance

Design, engineering and construction of Delco-Heat units are co-ordinated to insure continued, dependable performance. All materials are selected for quality and durability.

100% RESPONSIBILITY in manufacture

Specifications, materials, processes, workmanship and installations are all controlled by a single manufacturer. The Delco-Heat dealer always knows to whom to look for replacements and service.

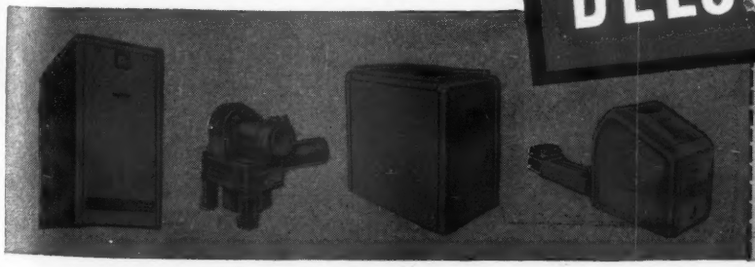
PUBLIC ACCEPTANCE of product

General Motors leadership in many fields gives Delco-Heat dealers prestige and opens the doors to hundreds of preferred prospects—satisfied users of other GM products.

Complete Line
FOR ALL THREE FUELS (OIL, COAL And GAS) AND ALL TYPES OF HEATING SYSTEMS

GENERAL MOTORS DELCO-HEAT

A few territories are still open.
Get the Details —Write Today!



DELCO APPLIANCE DIVISION, Dept. FH 47
General Motors Corporation, Rochester 1, N. Y.

Gentlemen:
I am interested in your Delco-Heat plan for dealers.

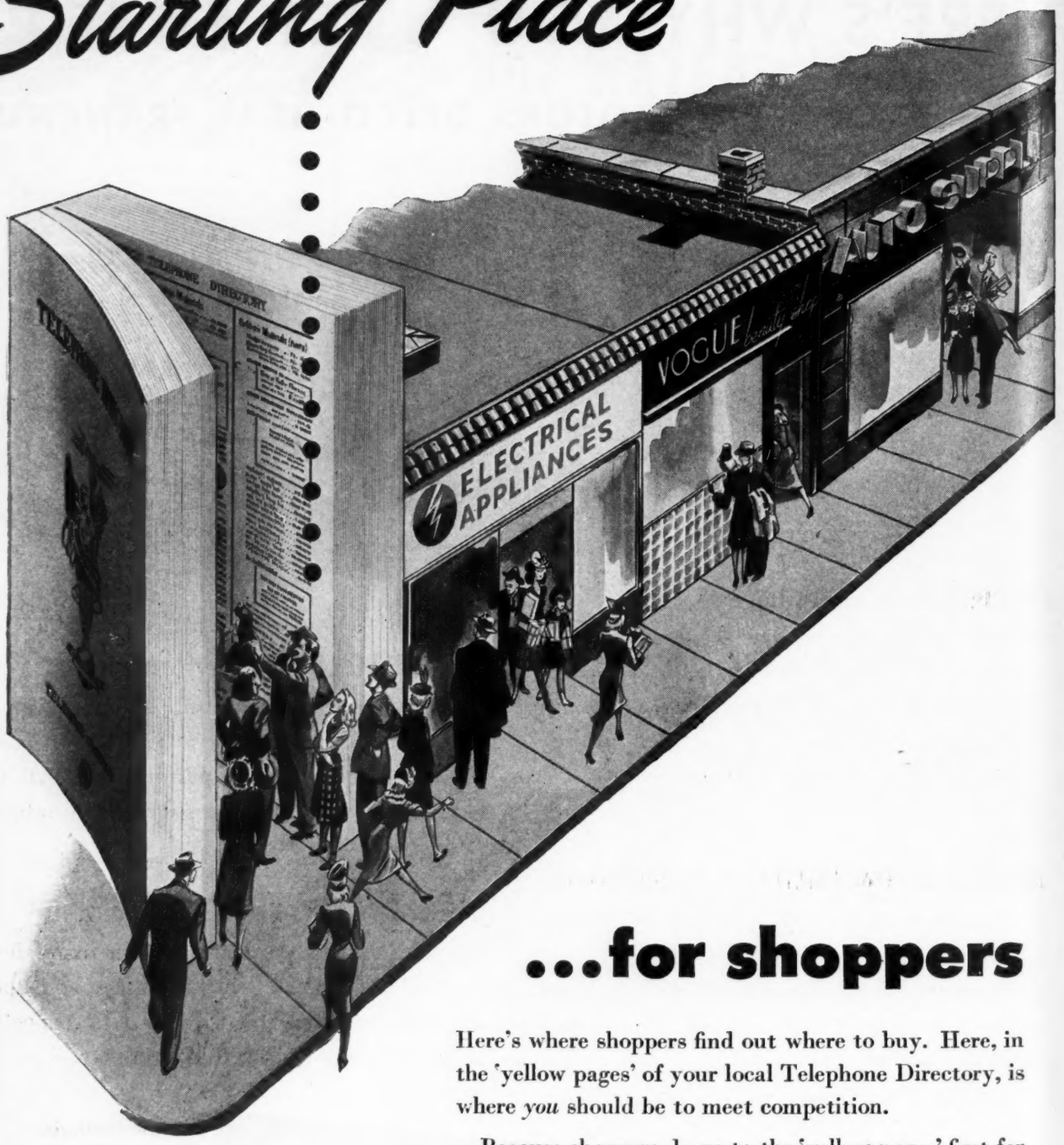
Name .....

Street .....

City ..... State .....

fueloil & oil heat

Starting Place



...for shoppers

Here's where shoppers find out where to buy. Here, in the 'yellow pages' of your local Telephone Directory, is where *you* should be to meet competition.

Because shoppers do go to the 'yellow pages' first for buying information, it's important that you be there to meet them . . . to catch their eye, to let them know what products or services you offer, and to direct them your way.

Years of publicizing the 'yellow pages' have helped make them the *starting place* for shoppers. Make sure prospects are started *your* way.

For further information, call your local telephone business office.

April
1947

Something HOT on Tap!

NO GAS OR ELECTRICITY NEEDED

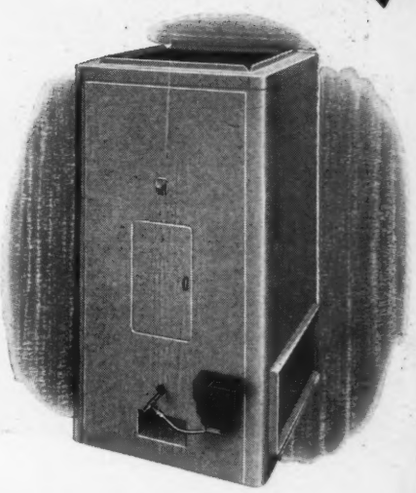
PLENTY OF HOT WATER FOR YOUR CUSTOMERS

PLENTY OF PROFIT FOR YOU

EVANS AUTOMATIC OIL-BURNING WATER HEATERS in 20, 30 and 45-gallon models offer you a profitable market today. They meet the demand for more and cheaper hot water in homes, beauty parlors, medical offices, etc. They're fine appearing, high quality, quiet, clean, automatic. No gas or electric connection needed. Go after these profitable installations with EVANS. Literature on request.

and the Best AUTOMATIC OIL-BURNING GRAVITY FURNACE YOU'VE EVER SEEN!

Today's—and tomorrow's biggest furnace market for you is the medium and small-sized home where this EVANS Furnace fits like a glove. It is rated 70,000 B.T.U. and it delivers fast and steady as long as the thermostat calls for heat. Shipped in two packages which one man can handle easily. The furnace can be set up quickly. Handsome Corsican Red baked enamel cabinet. Simple pot-type burner with hi-lo flame. Automatic draft regulator for all-weather efficiency. Excellent economy. Fully approved. Write for complete details today.



EVANS

Heating and Appliance Division

EVANS PRODUCTS COMPANY

PLYMOUTH, MICHIGAN

fueloil & oil heat

The *tireless twins* offer *effortless* heating convenience

COMBINATION FAN AND LIMIT CONTROL
OUTSTANDING FEATURES

- Exclusive Twin Contact Mechanism assures positive contact, snap-action and magnetic acceleration.
- Dial rotates—visibly indicating bonnet temperature.
- Summer fan operation is made by external knob adjustment, without disturbing fan or limit switch settings.
- Combination control is easily installed—mountable in any position.

Automatic heating with the Tireless Twins is the greatest convenience you can sell for better, easier, indoor living. Unequalled as a faithful, silent, round-the-clock servant, it's the only modern home equipment that is completely automatic — free from *all* physical effort. With the Tireless Twins on the job, home heating becomes truly effortless.

Dealers everywhere recognize the important advantages in selling a heating unit equipped with Twin Contact Controls . . . an important reason why leading manufacturers of heating systems pre-select Twin Contact Controls to bear their trade mark.

PERFEX CORPORATION, MILWAUKEE 7, WIS. • Perfex Controls Ltd., Toronto 1, Ont.

PERFEX

TWIN CONTACT CONTROLS

MANUFACTURERS OF AUTOMATIC CONTROLS BEARING THE TRADE MARK NAMES OF LEADING PRODUCERS OF AUTOMATIC HEATING SYSTEMS AND APPLIANCES

EFFORTLESS AUTOMATIC HEAT . . . DOES THE JOB COMPLETE

RHEEM OIL HEATER FEATURES MAKE HISTORY

...and that

MAKES MONEY FOR YOU

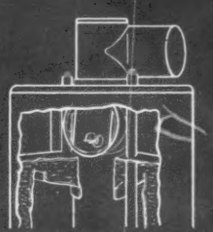
NEW...ECONOMY PILOT

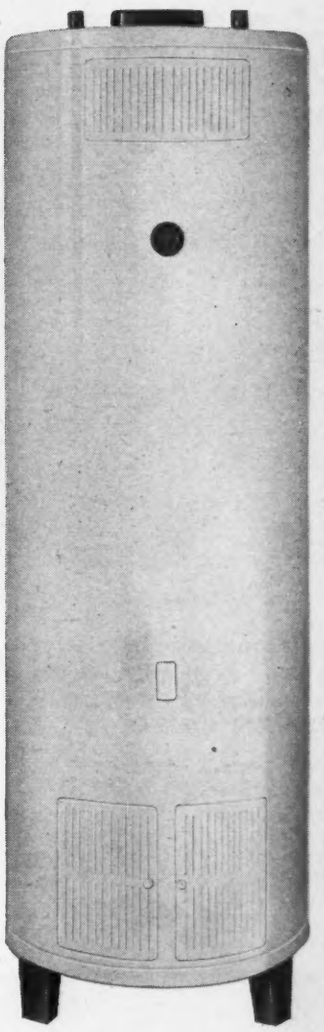
The Rheem oil water heater begins a new era of record-breaking water heating economy. For Rheem has a brand new, economy pilot that actually burns only a fraction of the oil most water heaters need. NOW, you can sell automatic hot water at an amazing new low cost. This means *more* prospects . . . *more* sales . . . and *more* profits for you.

NEW...ALL-ENCLOSED DESIGN

Patented design encloses all parts of the Rheem oil water heater within a steel jacket. This means extra safety and more beauty. A thick wall of Fiberglas insulation holds the heat inside the tank—gives more hot water for less fuel.

These are selling points that will send your volume 'way up.





It's the biggest news in the oil water heating field. So call your plumbing jobber right away and get this profit-making Rheem oil water heater into your store. Do it TODAY. And for full information, write Rheem, 570 Lexington Avenue, New York 22, N. Y.

RHEEM

RHEEM...making houses into homes

fuelfoil & oil heat

DEPENDABLE!

WEBSTER ELECTRIC FUEL UNITS

Years of experience in the heating field have given Webster Electric engineers the knowledge of field requirements. As a result, the Webster Electric fuel unit is designed and manufactured to meet precisely those requirements. Actual satisfactory use has proved their top performance and success.

A few of their many features are as follows:

Quiet under all conditions of vacuum and pressure.

Mounting features are simple but sturdy.

Strainer can be removed without spilling a drop of oil.

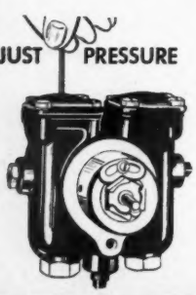
Outboard lubricated shaft bearings.

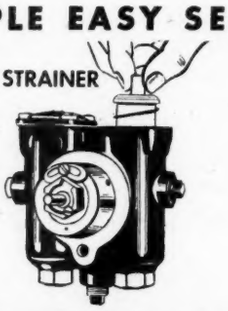
Duplex Bellows valve keeps pressure constant and provides quick cut-off.

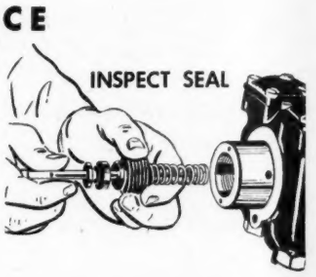
Air Bleeder Valve gives clean, quick, thorough bleeding.

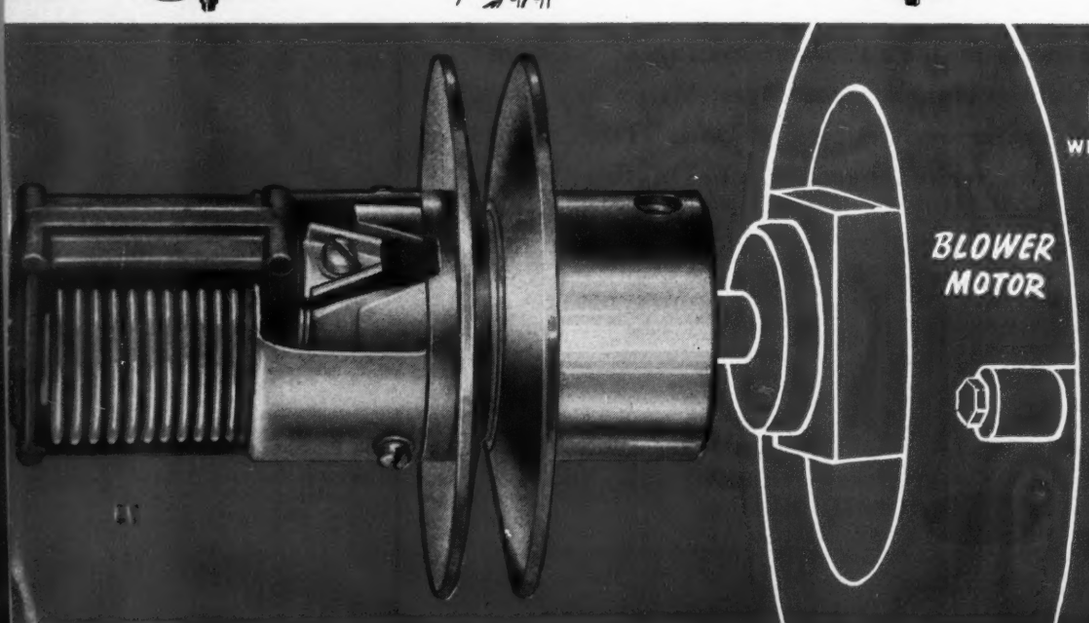
Webster Electric Fuel Units Are Made in Canada by Canadian Acme Screw & Gear, Ltd., Toronto, Canada.

FEW PARTS MEAN SIMPLE EASY SERVICE









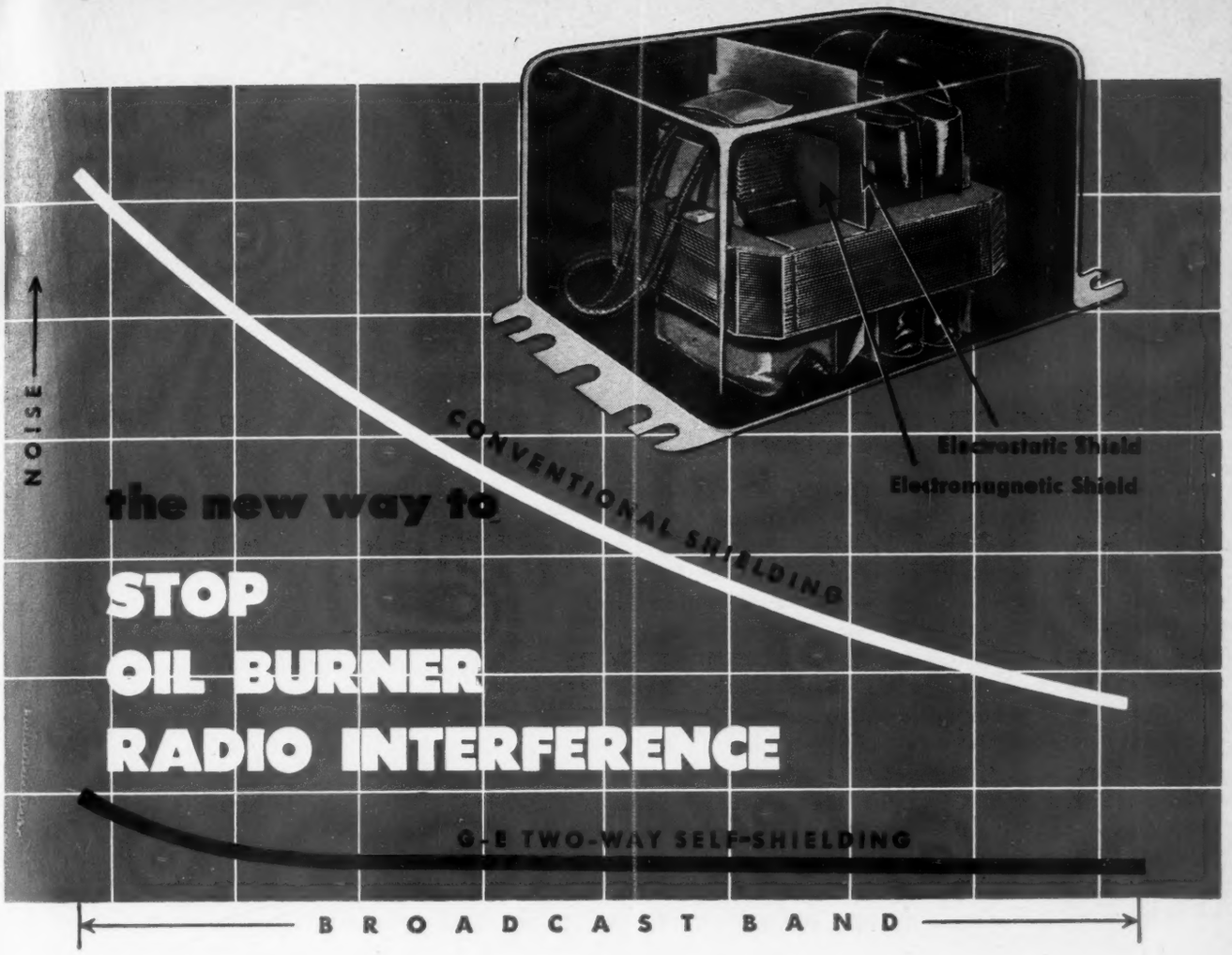
WEBSTER ELECTRIC

Thermod

Designed

Modulate W

Air Flow



G-E Class E Ignition Transformers Show the Effectiveness of Their Two-way Self-shielding in Comparative Tests

The above curves show how effectively the new two-way self-shielding feature of G-E ignition transformers blocks out radio interference caused by the oil burner arc. The radio frequency energy which attempts to get back into the household circuit through the ignition transformer is suppressed—before it ever reaches the primary circuit!

These noise level tests compared conventional transformer shielding with the new General Electric built-in two-way self-shielding. This feature of G-E Class E transformers is a combination of two types of shielding—the conventional electrostatic shield and the patented G-E electromagnetic shield.

YOU GET THESE ADVANTAGES:

1. Over-all suppression of radio frequency interference equal to that provided by normal internal shielding plus external filter.

2. Savings in cost over the external filter method.

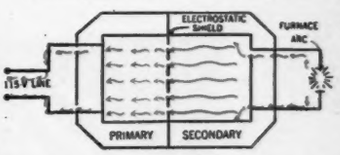
3. Economy of space—the magnetic shield is built into the transformer.

G-E ignition transformers meet every standard for an unfailing high-voltage arc. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

We realize that you are not getting all the G-E ignition transformers you need as quickly as you want them; but please remember that we are doing our utmost to increase production, despite continuing material shortages.

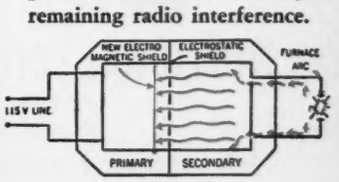
HERE'S HOW

ELECTROSTATIC SHIELDING prevents much of the radio-frequency interference caused by furnace arc from "riding" through to the 115-volt primary



— but some high frequency impulses still get through.

ELECTROMAGNETIC SHIELDING absorbs these high frequency impulses to eliminate virtually all remaining radio interference.

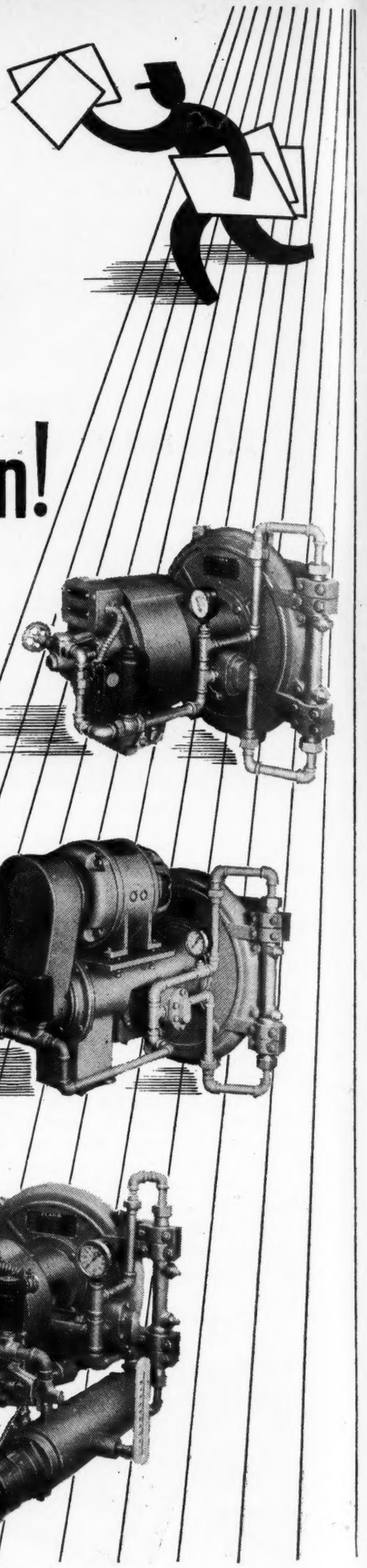


GENERAL ELECTRIC

411-I-6205

fueloil & oil heat

Clark NATIONAL does it again!



Response to the recent announcement in these columns of the new, *double-action "Clark National"* Distributor Franchise has been overwhelming. Wires and special delivery letters have literally poured in from all sections of the country . . . from Maine to Florida . . . from New York State to California . . . even cables from such far-away places as Denmark and Sweden.

So, if your inquiry has been sent, please be patient . . . you will surely hear from us.

Yes . . . this is fair warning the books on *"Clark National's" exclusive Territory Franchises are just about closed.* If you have merely been mulling over this exceptional profit opportunity . . . *act without delay, before it is too late!*

A *"Clark National"* Franchise is more than a document. It incorporates every phase of Company cooperation and protection . . . proving anew there is no substitute for integrity.

Clark

NATIONAL OIL BURNER CO.
OF NEW YORK, INC.
Industrial Division
554 VANDERBILT AVENUE, BROOKLYN 14, N. Y.

Makers of *"Clark"* Pump and Non-Pump Type Oil Burners that burn at the lowest cost industrial fuel oils—in all sizes from 3 to 300 Boiler H.P.

FOLLOW THE ARROWS

THEY POINT THE WAY TO GALONGAGE SUCCESS!

When you read your oil tank gauge you want to know *exactly*—not approximately—how many gallons of oil there are in your tank. ***Galongage*** is designed to do just that. Users know that, just like checking any meter in their house, they can rely on ***Galongage*** to give them an accurate reading when heating troubles arise. There's no guessing when the oil supply is low.

The ***Galongage*** is a labor saver. It comes fully assembled from the factory. Just *lower* metal float into tank and screw in gauge, thereby eliminating all time-consuming assemblies and adjustments. For all around satisfaction—install ***Galongage!***

The ***Galongage*** that measures in 10-gallon spacings is calibrated for each standard size 275- and 220-gallon tank with depths of 44", 42", 27" and 26" with either 1½" or 2" tank openings. The ***Galongage*** that is calibrated in inches is especially suited to off-size tanks. *When ordering, be sure and specify depth of tank, size of opening, and calibration desired.*

Write today for our price list. Immediate delivery.

THE *Galongage*

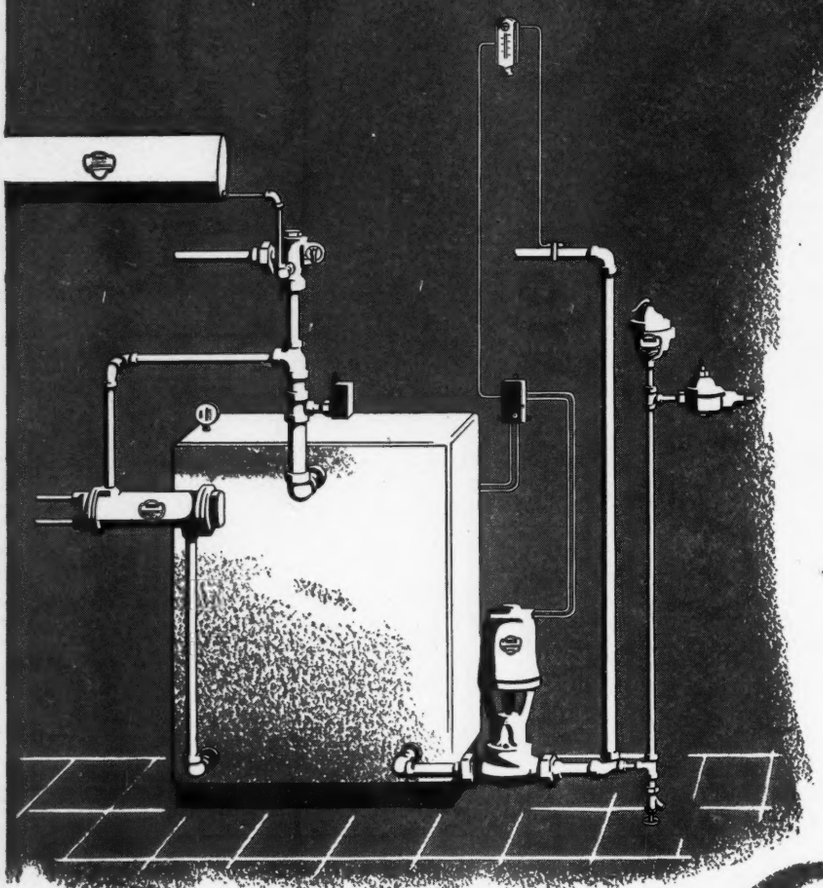
A PRODUCT OF APPLIED MECHANICS COMPANY, 167 OLIVER STREET, BOSTON, MASS.

CANADIAN REPRESENTATIVES: ***Railway & Engineering Specialties Ltd., 417 St. Peter Street, Montreal***

fueloil & oil heat

Thrush FLOW CONTROL HOT WATER HEATING SYSTEM

PROVIDES CONTINUOUS RADIANT HEAT WITH INTERMITTENT FORCED CIRCULATION

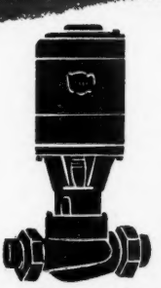


CHOOSE a Thrush controlled, forced circulating, hot water system for real "solid comfort." It provides continuous radiant heat . . . *without* requiring continuous Circulator operation. Thrush Flow Control System automatically regulates water temperature to maintain absolutely uniform comfort regardless of outdoor weather changes. Operating cost is low because the Thrush Circulator normally operates only a few minutes out of each hour, and firing unit operating periods are shorter.

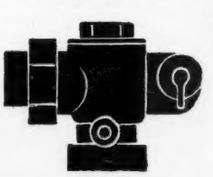
YEAR 'ROUND HEAT, HOT WATER

FORCED circulating Thrush Flow Control Hot Water Heating System is completely automatic, convenient, and economical of fuel. It also provides Summer-Winter domestic hot water from the same boiler at low cost. Heat distribution is quicker and there is no wasteful overheating. Installation costs less because forced circulation permits the use of smaller pipe, valves, and fittings. If you are not familiar with Thrush Systems, see your wholesaler or write for literature. Address Dept. C-4.

THRUSH RADIANT HEAT CONTROL



THRUSH WATER CIRCULATOR



THRUSH FLOW CONTROL VALVE

H. A. THRUSH & COMPANY

PERU • INDIANA

Yula HAS DONE IT AGAIN!

C. H. M. RESIDENTIAL SHELL TANKLESS HEATERS

(Can be used with steam or hot water heat)

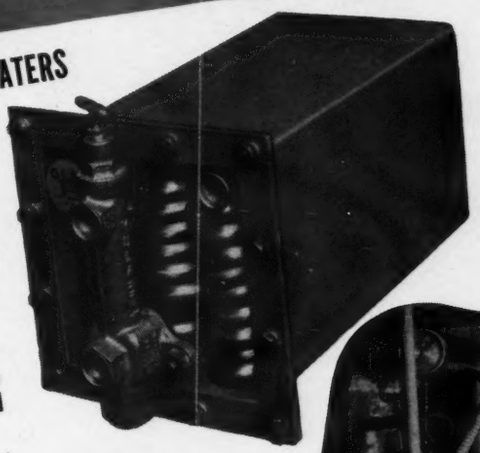
This sensational New Shell Tankless Heater developed by YULA has the unique feature of a Heater combined with Mixing Valve in ONE COMPLETE ASSEMBLY. The Heater is small, compact and requires very little boiler room space. (See photo at right.)

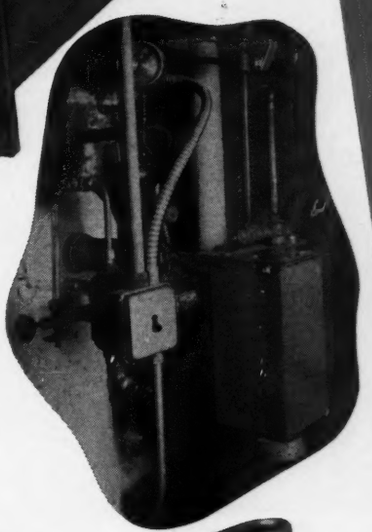
The Heater Shell is steel. Construction is such that ample circulation around the coil is obtained. The Coil is easily removed for cleaning.

The Mixing Valve is perfectly timed and has close temperature regulation. It can be set at any desired temperature between 140° F. and 180° F. Complete hot water shut-off is an important safety feature.

Standard stock sizes for from 1 to 8 families.

NOTE SAVING IN INSTALLATION COST. NO TRAP. NO BY-PASS. (See photo at right.)





TYPICAL INSTALLATION

C. H. M. IN-BOILER *Tankless Heaters*

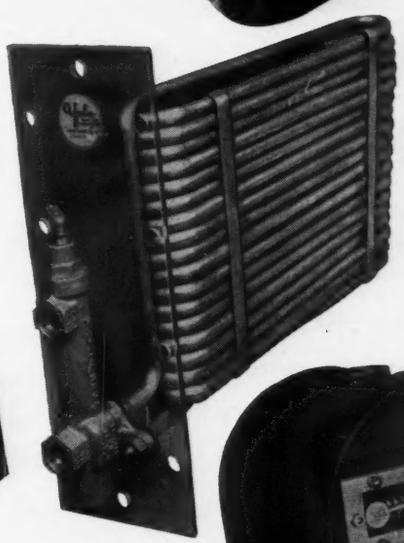
(For Residences, Apt. Houses, Industrial Buildings)

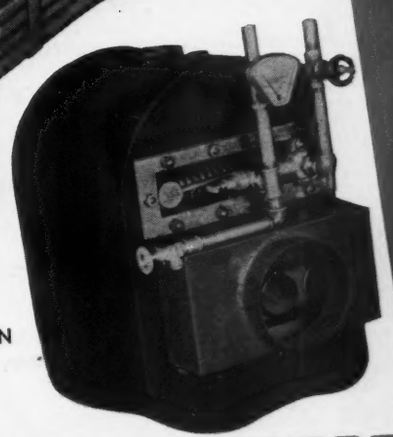
This In-Boiler Tankless Heater is made for easy attachment to the coil plate of any boiler. Smooth bends eliminate restriction of flow. Heater has very little pressure drop. (See photo at right.)

Specify the YULA Combination Heater when ordering your boiler.

Send for complete information and prices on these Heaters and YULA Mixing Valves by using coupon below.

YULA Heaters are covered by U. S. Patent No. 2257442. Installation cost is reduced because no trap or by-pass is needed. (See photo at right.)





TYPICAL INSTALLATION

Yula
WATER HEATERS, INC.
166 WEST 225 ST. • NEW YORK 63

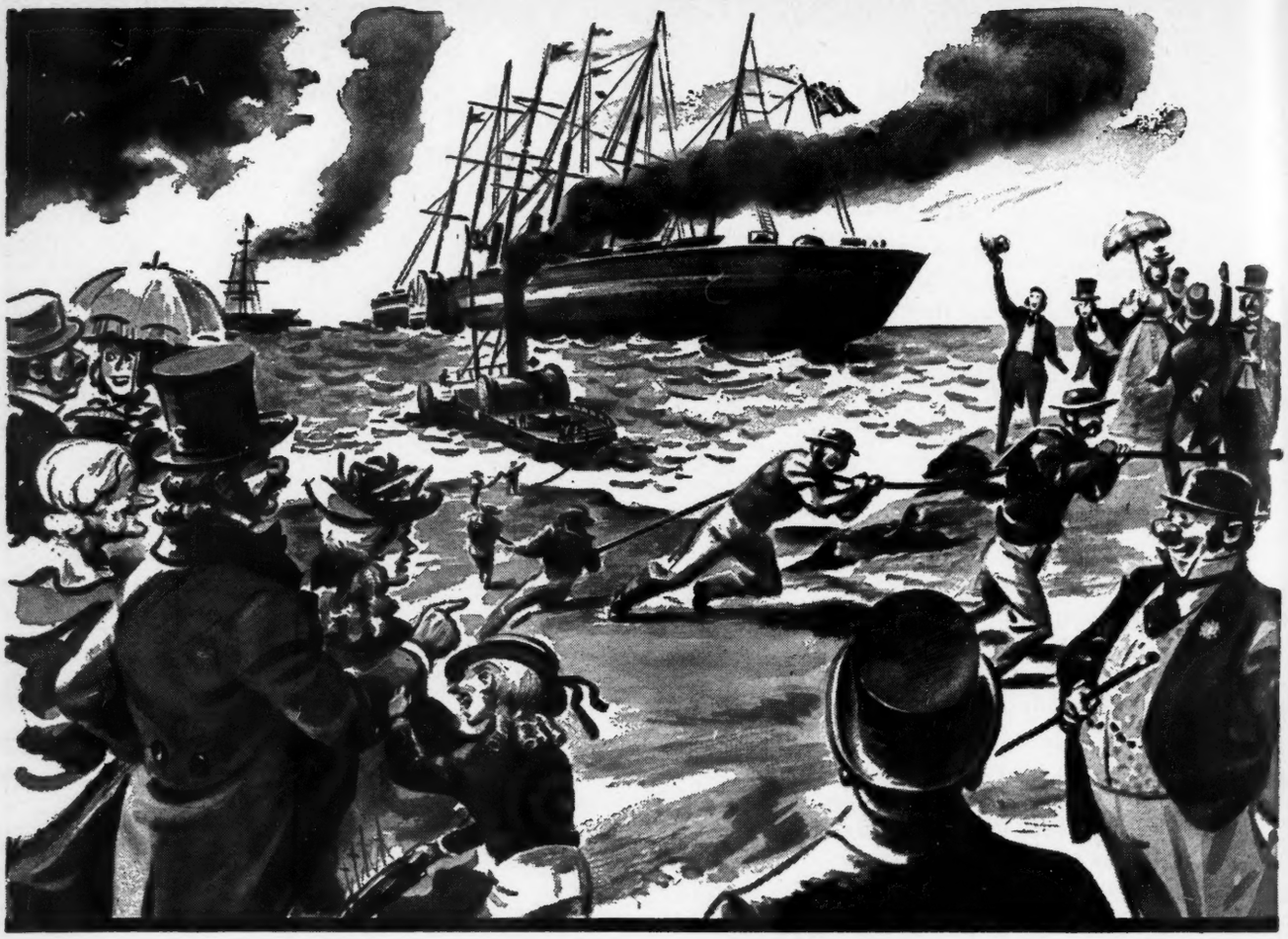
Gentlemen:

Please send me complete facts on YULA WATER HEATERS.

Name .....

Address .....

fuel oil & oil heat



Since 8 years before they laid the Atlantic cable . . .

HOMEOWNERS HAVE BEEN ENJOYING THATCHER FURNACES

IT was 1858 and at last the long, tough job was over. Skyrockets arched over Union Square as all New York joined the torchlight celebration. The Atlantic had finally been spanned by cable.

But for eight years before that, scores of American homeowners had cause to celebrate something closer to home — the modern comfort of home-heating by Thatcher.

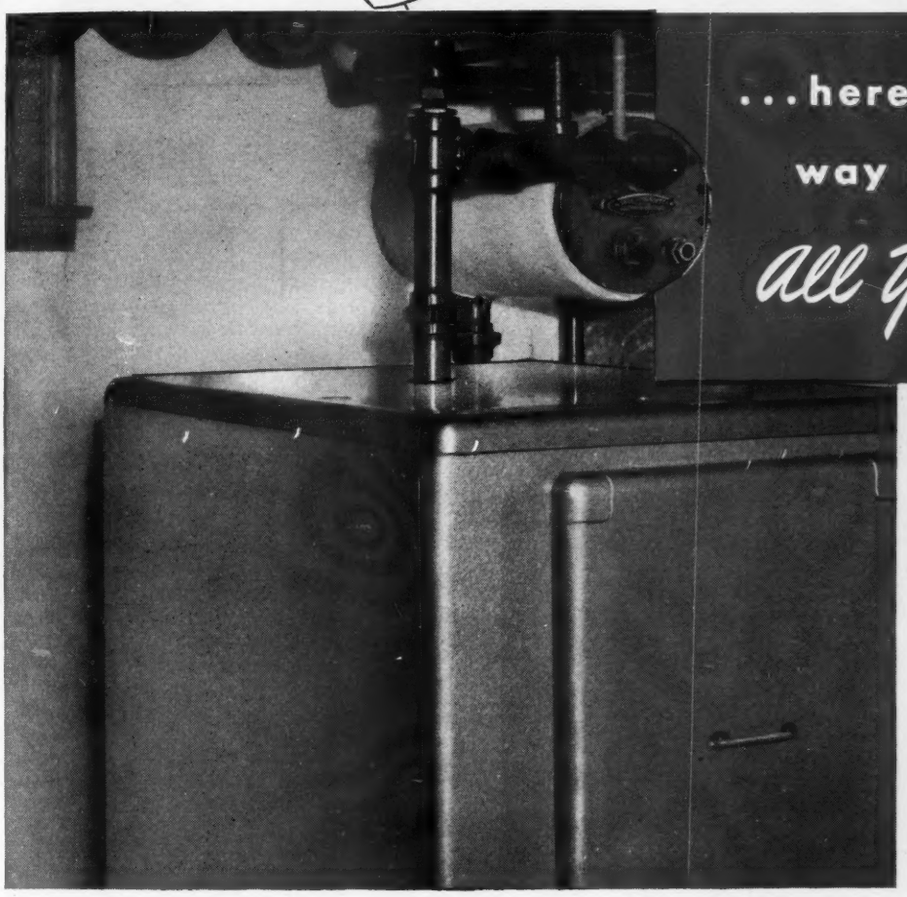
Today, in our brand-new plant, we are producing for your customers more and finer Furnaces, Boilers and Air Conditioners than ever. Today, though we're proud of our 97 years of quality production, we're prouder still of our partnership with *you* — of the way you and we can work together to give *your* customers the finest service money can buy.

KEEP YOUR EYE ON THATCHER

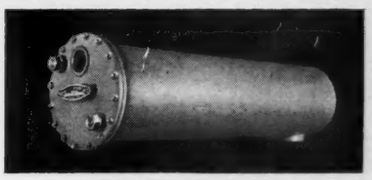
Thatcher FURNACE COMPANY
Garwood, New Jersey

SPECIALISTS IN HEATING SINCE 1850

Modern Living Demands *Hot Water!* And Lots Of It

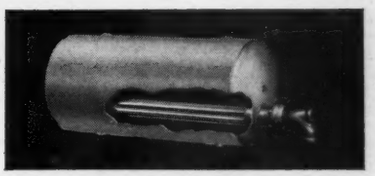


. . . here's the low-cost way to produce it *all Year 'Round!*



B & G Tankless Heater

This compact, large capacity Heater does not require a storage tank as it heats water instantaneously, as drawn. As illustrated above, it can be installed in a minimum of space.



B & G Tank and Heater

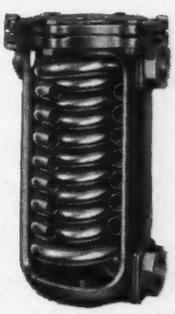
The preferred heater for hard water territories. Hot boiler water circulates through the tubes of the heater, heating the water in the tank. Any liming that occurs forms on the outside of tubes, where it can be easily removed.

If you like to watch profits pile up, get in on today's demand for B & G Water Heaters!

Consider this . . . automatic dish washers, clothes washers and showers are being used in ever-growing numbers. They're marvelous conveniences and labor-savers, *but they call for liberal quantities of hot water!* The cost of heating water is therefore all-important . . . and that's where B & G fits into the picture.

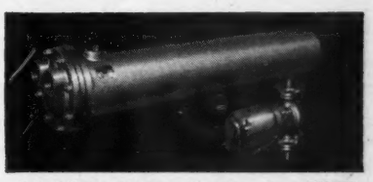
For years B & G Water Heaters have delighted owners with the way they produce hot water at trifling cost. They are equally efficient on either hot water or steam boilers and available in a complete range of sizes and types. Remember, too, that B & G Heaters provide hot water *all year 'round.*

Make your play now for these waiting profits! Get the facts on B & G Water Heaters—write today.



B & G Indirect Heater

For storage tank heating.



B & G Instantaneous Heater—Type "WU"

Water-to-water heat transfer. Mechanical circulation of boiler water provided by the B & G Booster Pump increases Heater capacity and permits accurate control of service water temperature.

WATER HEATERS FOR HOME AND INDUSTRY

*REG. U. S. PAT. OFF.

Hydro-Flo* WATER HEATERS

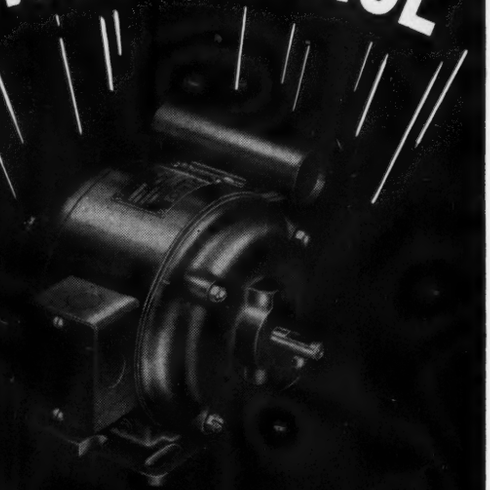
BELL & GOSSETT CO., DEPT. Y7, MORTON GROVE, ILLINOIS

fuel oil & oil heat

OHIO MOTORS...

Application Proved For

TOP PERFORMANCE



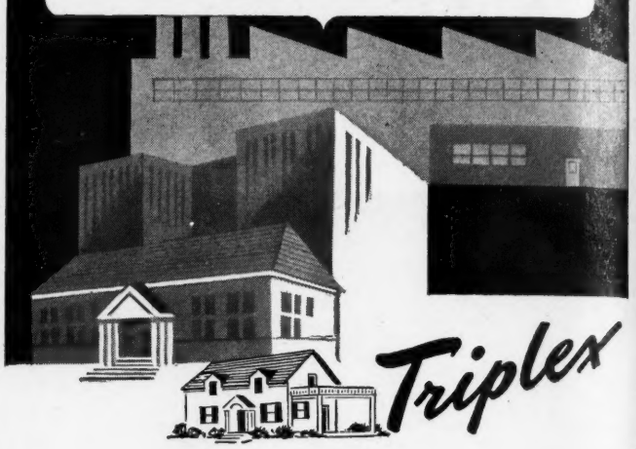
The extra dependability and efficiency of Ohio "Application Proved" Motors is the result of meticulous attention to detail . . . from the design room through final inspection. More than 100 tests are applied to every Ohio Motor. To be sure that your product will deliver top performance, specify Ohio "Application Proved" Motors. Write today for a copy of our catalog.

THE OHIO ELECTRIC MFG. CO.

CHESTER BLAND, President

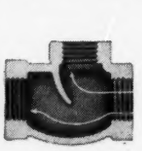
5913 Maurice Ave. • Cleveland 4, Ohio

FOR HOMES AND BUILDINGS of any type—large or small

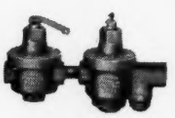


Triplex

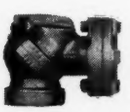
FLOW CONTROL UNITS Assure Hot Water at its Best



One-Pipe Distributors



Relief and Pressure Reducing Valves



Flow Control Valves

Direct Drive Circulators

Because the entire Triplex Flow Control system is so effectively simple, the same equipment that assures hot water heating at its best in homes can also be applied to large installations (stores, offices, public buildings, factories, etc.) by merely increasing the number or size of individual operating units. Hot water is automatically circulated—abundant heat supplied to the radiators instantly, whenever and wherever needed. As a result, the amount of radiation needed for unvarying comfort in any season is greatly reduced—and heat loss (through circulation) is reduced to an absolute minimum. Yes, Triplex means hot water at its best—in performance, popularity, and profits. Write for latest catalog today.

Triplex Sump Pumps—designed and built for long, trouble free service—are always in demand, too.

Triplex

HEATING SPECIALTY CO., INC.
PERU, INDIANA

In addition to units illustrated, the Triplex line includes—Direct Drive Horizontal Circulators, Indirect Drive Circulators, Expansion Tanks, Air Eliminators, Water Mixing Valves, Air Vent Valves, Indirect Heaters, Tankless Heaters, Control Units. Electrical Controls, and Barometric Draft Dampers.

SEE YOUR WHOLESALER TODAY

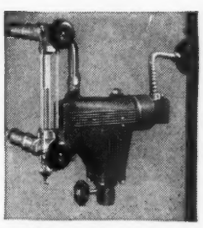
Experience speaks in every detail of the . . .

McDonnell No. 67

A low water cut-off doesn't get into action very often, but when it *is* called on, failure to act can spell disaster!

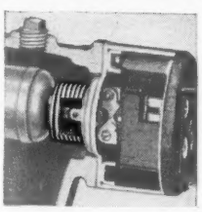
That's why it pays to install the low water cut-off that will dependably cut the current to the burner when the water level drops. No other cut-off has proved so dependable in this tough assignment as has the McDonnell No. 67. It does its job right because it incorporates design and construction found in no other low water cut-off — features developed step by step through many years of "Doing One Thing Well". Some of these features are described below:

McDonnell No. 67 Low Water Cut-off for boilers of any size, maximum steam pressure, 25 lbs.



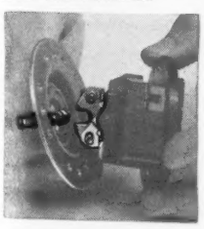
1 The "Quick Hook-Up"

This patented feature, dating back to 1932, provides a quick, easy way to install the No. 67 right in the water glass tappings. But far more important, it represents the one dead-sure way to duplicate gauge glass conditions in the float chamber.



2 Packless Construction

A bellows seals off the float chamber; eliminates that old headache—the packed joint. Float is pivoted at center of bellows to prevent bellows distortion — a typical McDonnell refinement.

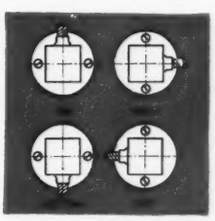


3 Roller-and-Rocker Switch Action

This ingenious design prevents improper on-and-off action of cut-off switches due to minor float bobbing—another typical refinement.

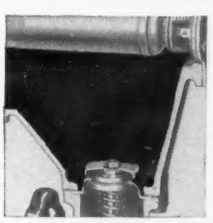
4 Two Independent Switches

In addition to the regular low water cut-off switch, a second switch (closing on a small drop in water level) is provided in the No. 67. This permits use of McDonnell No. 101 Electric Water Feeder when desired.* Both switches are precise, dependable — built throughout in our own plant.



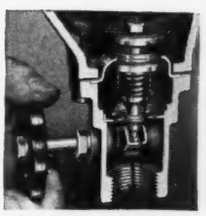
5 Adjustable Terminal Box

The four-position terminal box assures easier, neater wiring—one more example of "Doing One Thing Well" at work.



6 Deep Sediment Chamber

People sometimes fail to follow blowdown instructions. Even when they are careless, the deep bowl prevents trouble.



7 Straight-Through Blow-Off Valves

A standard valve wouldn't do for a blowdown, so we built our own. It provides an extra-wide orifice to sluice out all the sediment with just a half turn of the handle—is spring closing so it can't be left open. More important still, it has a big discharge capacity which drains the float chamber faster than water can enter from the boiler, lowering water level for testing. Insurance companies require this!

Yes we make the No. 67 right; test them individually; stand behind them in service. This is your kind of low water cut-off

*A low water cut-off protects a boiler by stopping the burner when a low water condition occurs. However, completely automatic boiler water level control is accomplished by a combined water feeder and low water cut-off in which the feeder automatically maintains the water level under normal conditions and the cut-off automatically stops the burner in an emergency. Such combinations are the No. 67-101, the No. 47-2 and other feeder-cut-off combinations for larger and higher pressure boilers.

Your Jobber Stocks Them

McDONNELL & MILLER, INC., 1310 Wrigley Building, Chicago 11, Ill.

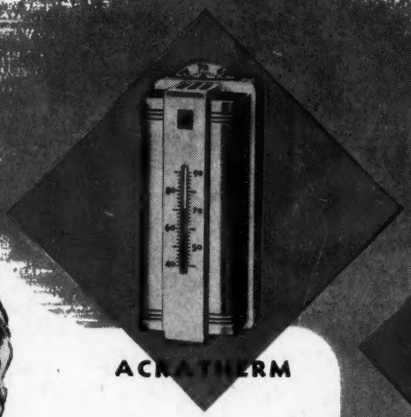
Doing One Thing Well

McDONNELL *Boiler Water Level* CONTROLS

MANUFACTURERS

DEALERS

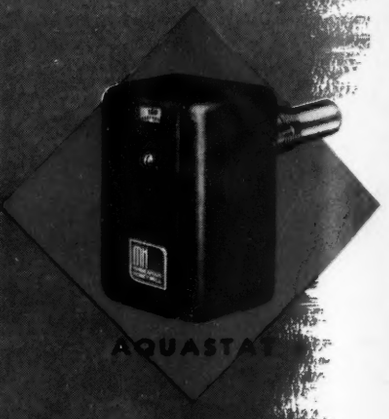
USERS



ACRATHERM

PROTECTORELAY

AIRSTAT



AQUASTAT

PRESSURETROL

All Prefer HONEYWELL

RIGHT down the line—from the manufacturer of oil heating equipment to the home owner—it's an unbroken chain of preference for Honeywell controls. And at every point, you'll find the same reasons for this preference . . . . *dependable accuracy.* For it is reliable, exact performance that has earned the Honeywell reputation for leadership.

This consistent performance record is no accident because *dependable accuracy* represents the simple standard by which Honeywell controls have been made for more than half a century.

Remember, too, that added prestige, easier sales are the result of public preference. That's a vital edge from your viewpoint within the oil heat industry . . . Minneapolis-Honeywell Regulator Company, 2636 Fourth Avenue South, Minneapolis 8, Minn. Canadian Plant: Toronto 12, Ontario. Branches and distributors in all principal cities.

MINNEAPOLIS Honeywell

CONTROL SYSTEMS